Advancing Environmental Governance

Perspectives from the Regional Environmental Forum for Mainland Southeast Asia

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Introduction

What is the Regional Environmental Forum?

The Cambodian Institute for Cooperation and Peace (CICP), the Thailand Environment Institute (TEI) and the World Resources Institute (WRI) organized a Regional Environmental Forum (REF) for mainland Southeast Asia, on 14-15 November 2002 in Phnom Penh, Cambodia. The Forum brought together independent environmental experts from research institutes, universities, and non-governmental organizations in the region.

The purpose of the meeting was twofold. First, the meeting provided a platform for discussing the implications of regional developments for the natural environment and people's livelihoods. From these discussions, the Forum was intended to generate constructive recommendations for national governments, regional institutions and other groups on how to improve environmental governance in mainland Southeast Asia.

Second, the meeting provided an opportunity for independent analysts from the six Mekong countries to create and strengthen professional relationships, and identify common agendas. The Forum was intended to promote the creation of a regional network to monitor environmental governance on a regular basis.

This Introduction provides a short summary of the format and accomplishments of the first regional Forum including the Consensus Statement of the Forum. The Statement represents the main output of the two days' deliberations. This is followed by revised versions of the Country Perspective Papers that were presented at the Forum. The papers provide options for sustainable management of the Mekong region's environment through improvements in governance, from the perspective of the experts in each country. Finally, we include a list of meeting participants.

Why a Regional Civil Society Forum for Mainland Southeast Asia?

The convening of the Forum reflects a broader, growing concern among the people of mainland Southeast Asia about degradation of their environment, and costly environmental trade-offs of large scale development activities. Political and economic integration has proceeded quickly: in the past five years, Laos, Vietnam, Cambodia, and Burma (Myanmar) have been admitted to the Association of Southeast Asian Nations (ASEAN). The governments of the Mekong countries have committed to significant shared infrastructure schemes under the Asian Development Bank's Greater Mekong Subregion Program. These include a regional power grid (powered by large hydropower dams) and system of development corridors. In these political and economic fora, environmental issues are sidelined and are insufficiently integrated with talks on regional security, investment, and other issues.

Meanwhile, damming and deforestation have contributed to high-profile environmental disasters, such as fatal floods in Cambodia's northeast and in Vietnam's Mekong delta.

Public concerns about environmental security in the Mekong's downstream riparian countries have only increased as plans for upstream development are gradually realized. Most recently, China is moving forward with plans to construct dams on the upper Mekong and blast the Mekong's rapids in order to increase commercial shipping among the upstream riparians. Together, these incidents and perceived future threats raise questions about the roles of regional institutions and national actors in activities to develop shared resources, and the responsibilities of developers to broader society.

The problem with planned regional developments is not only *what* they cause (unwanted environmental degradation) but *how* they are decided. Single governments take unilateral development decisions that will affect all riparian countries in a watershed. National and regional officials plan policies or projects on the assumption that they will benefit certain social groups, but they overlook or fail to mitigate the risks to other communities.

At the same time, governments have not achieved coordinated and effective responses to other forms of environmental degradation in the region. Illegal trade in forest products threatens the health of forest ecosystems and puts pressure on local production systems that rely on access to these resources. This is a regional problem because China's thirst for natural medicines and Thailand and China's logging bans spur the extraction of timber and endangered plants and animals in neighboring countries.

Internationally, norms for environmental sustainability and public participation in environmental decision-making have evolved significantly in the last dozen years. The Rio Declaration of the UN Conference on Sustainable Development in 1992, the World Commission on Water and World Commission on Dams, and a plethora of similar consultative processes during the 1990s have created pressure on public institutions to open their decision-making processes and adopt ecosystem management approaches. International norms in environmental governance include transboundary cooperation, full integration of environmental concerns into development decision-making, and public access to environmental information and decision-making. These norms are summarized in Box 1.

Box 1: Emerging international norms of environmental governance

- *Integration of environment into development decision-making* – Environmental considerations should be a part of all development planning and decision-making, from the outset of policy and program priority formulation to the implementation of project-specific activities. The Mekong governments have made efforts to mainstream environmental issues into policymaking, such as creating stricter requirements for environmental impact assessments. The Mekong River Commission (MRC) has added an Environment Program to its structure. Despite this progress, however, across the region the integration of environmental considerations into broader decision-making processes remains piecemeal.

- *Transboundary cooperation* – Sustainable regional development must recognize the transboundary impacts of environmental management decisions. In particular, decision-makers must be aware of both the environmental and social nature of these impacts. In the Mekong region, planning for communications and energy infrastructure development holds a central position within national and regional economic development strategies. The current and potential transboundary impacts of such developments underscore the importance of cooperative approaches.

- *Public access to information and decision-making* – Basic legal and policy frameworks should provide the public with access to information and decision-making concerning the environmental degradation that affects their lives, and with equitable access to judicial recourse in the event of damages. There are some promising developments in the Mekong region, such as the 1997 Thai Constitution's provision for public access to information and the development of the Asian Development Bank's internet-based tools for facilitating information provision. Nonetheless, basic access of the general public to information and meaningful roles in decision-making are by no means secured.

One of the Mekong region's particular challenges is that it lacks a strong civil society movement that in other parts of the world has pressured public institutions to improve their public accountability. The situation of civil society differs radically among the countries of the region. For example, Thailand has a vibrant civil society, comprising community-based movements and religious organizations as well as non-governmental organizations (NGOs) and research institutes. But in comparison, civil society — especially domestic NGOs — in Cambodia, Vietnam, Laos, and China is still weak, and in Burma (Myanmar), a functional civil society does not exist. What is more, there is not yet a strong Mekong regional civil society network to act as a counterpart and pressure group on the governmental processes that are driving regional development. There is neither a strong network of NGOs and researchers, nor a wider civil society network including social movements.

CICP, TEI, and WRI decided to convene a group of environmental experts from NGOs and research institutes to address the need for more transparent, integrated management of the region's environment. The first Regional Environmental Forum for Mainland Southeast Asia was therefore an experiment. It was an experiment to see whether participants were interested in strengthening and formalizing a network to monitor regional environmental governance processes over time. It was also the first step of a longer-term experiment to see whether such a group could effectively influence regional debates.

What Did the Forum Do?

In preparation for the REF, the organizers conducted a survey regarding trends in environmental conditions, key issues in environmental management and roles of institutions. The survey was intended to capture the views of non-governmental "opinion leaders" rather than a representative sample of public opinion.

Around 80 environmental experts from NGOs and research institutions in the five Mekong countries received the survey and 30 responded. The REF organizers collected and synthesized the data, and presented it on the first day of the Forum as a catalyst for further discussion. Because of funding constraints, the organizers were unable to support all survey recipients to attend the meeting itself. The organizers encouraged meeting participants to fill out the survey before the event.

Survey respondents indicated that environmental conditions in the Mekong region are deteriorating across the board — from forest and freshwater to marine resources. Survey respondents emphasized the role of governments in increasing environmental policy performance, by increasing the collection and disclosure of environmental information and increasing the opportunities for citizen participation in planning. They also expressed the hope that civil society groups could play an increased role in decisions that affect the environment at a regional level. Respondents noted the significant gap in mainland Southeast Asia between environmental laws and policies, and their actual implementation.

The Forum was attended by 35 researchers from Vietnam, Thailand, Laos, Cambodia, Yunnan China PRC and Burma (Myanmar). Most came from non-governmental institutions, although a small number came from quasi-autonomous government research institutes. All participants took part in their personal capacities and were invited on the basis of their ability to provide an independent voice on environmental issues.

The program lasted for two days. The first day featured general introductions, and a presentation of the REF Survey of Perceptions on Environmental Governance. While the survey results generated interest, participants indicated that a more rigorous survey would be helpful in the future, as opposed to the survey of expert opinion undertaken in 2002. Authors presented their Country Perspective Papers for critical feedback. Each paper provided an overview of the environmental situation and environmental policy framework in the author's country, and assessed the country's contribution to environmental governance at the Mekong regional level. Authors also discussed the future prospects for improving environmental governance at the national and regional levels. Based on colleagues' feedback at the Forum meeting, the authors have revised the papers for publication in this volume. The Country Perspective Papers solely represent the opinions of the authors and in no way represent the views of the broader group of participants at the Forum meeting.

On the second day, participants broke out into working groups to formulate recommendations for improved regional environmental governance for decision-makers

and other regional actors. Participants at the Forum focused discussions on broad issues of environmental governance, rather than any specific development project or program. The groups focused on three main topics: Access to Information, Participation, and Transboundary/Regional Issues. Once working groups had drafted recommendations, they presented them to the plenary session for refinement and approval. The three sets of recommendations were synthesized into a final Consensus Statement of the Forum.

The REF was held shortly after high profile ministerial meetings such as the ASEAN Summit, ASEAN+3 Meeting, ASEAN-China meeting, and the meeting of Greater Mekong Subregion leaders, all of which took place in Phnom Penh. A major civil society gathering, including NGOs and farmers' movements, entitled the Dialogue on River Basin Development and Civil Society, also took place in early November in Ubol Rachatani, Thailand.

Discussions at the REF were situated very much in the context of these parallel meetings and with a view to identifying a niche for the REF group. Dr. Kao Kim Hourn, executive director of CICP, opened the REF with remarks on the recent ASEAN summits. He called on civil society colleagues to mobilize for additional, effective input to future summits through the "Track II" discussions, which take place in parallel with the "Track I" ASEAN ministerial processes. The unofficial Track II talks include participants from academic and government who are acting in their personal capacity. They address regional political and security issues, including some issues that the official talks are not yet ready to address.

At the end of the REF meeting, participants established a Steering Committee. The Steering Committee will deliberate whether there should be another Forum and if so, whether it should be organized in parallel to official processes, or on an independent timeline.

What is the Forum's Impact?

CICP, TEI and WRI hoped that broad distribution of the Forum's recommendations would raise the profile of regional environmental governance concerns, and awareness of sound policy options, among decision-makers and the general public. We are pleased that the Consensus Statement has succeeded in garnering much attention.

Following the meeting, the organizers issued the Consensus Statement and a press release to the local and regional media. The *Bangkok Post* ran two articles about the Forum's activities. Khmer, Chinese, English and French-language press and radio stations in Cambodia interviewed Forum participants and carried news of the meeting. In addition, the *Bangkok Post* articles and the Consensus Statement were distributed widely on regional and international listservs and in newsletters.

The media coverage generated many inquiries from national and international institutions about next steps. Embassies, regional agencies such as UNESCAP, and international

organizations such as UNDP sought more information about the survey and follow-up opportunities for exchange.

It is early to gauge the practical results of the Forum. But the organizers hope that this report will encourage interest among concerned readers for future dialogues. We also hope that the Forum's recommendations will be carried forward in the work of participants and concerned stakeholders to improve the policy and practice of environmental governance in mainland Southeast Asia.

Contact Us

We invite readers to check our website at http://www.ref-msea.org for updates about future activities of the Forum and ways they can contribute or be involved. Alternately, you may contact Dr Somrudee Nicro and Prin Visavakum at Thailand Environment Institute, somrudee@tei.or.th and pond@tei.or.th ; or Dr Kao Kim Hourn at Cambodian Institute for Cooperation and Peace at cicp@camnet.org.kh for more information.

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Organizers of the first Regional Environmental Forum

May 2003

Consensus Statement of the First Annual Regional Environmental Forum

Phnom Penh, Cambodia
15 November 2002

On 14-15 November, 2002, a group of 35 independent researchers and civil society advocates from Cambodia, Vietnam, Laos, Thailand, Myanmar and China met in Phnom Penh at the First Annual Regional Environmental Forum. The purpose of the Forum, organized by the Cambodian Institute for Cooperation and Peace, the Thailand Environment Institute and the World Resources Institute, was to discuss environmental governance challenges in the Mekong region. The following are specific recommendations from participants in the REF directed to governments, multilateral institutions, private corporations, and civil society groups with the objective of strengthening environmental governance in the Mekong region.

Enhancing Regional Environmental Governance

As regional economic and political integration proceeds, the importance of enhancing regional environmental governance increases. The REF welcomes recent increases in attention on the part of governments and regional organizations to the challenges of equitable and ecologically sustainable development. The REF further believes that existing mechanisms, if further strengthened, can serve as channels for improved environmental governance. However, we see a need for continued efforts to raise transboundary environmental issues on the political agenda at all levels. Further, the REF welcomes Paragraph 44 of the Greater Mekong Subregion (GMS) Summit statement "Building on Success," which urges greater participation by key stakeholders in the development and implementation of regional policies, strategies, and projects. However, REF participants believe that there is a large gap between this aspiration and current practices, and therefore recommends that:

- Governments in the region proactively disseminate information to the public about upcoming regional decision-making forums, and facilitate public participation in formulating the agendas for such meetings. The REF further recommends that: governments collaborate with each other to create mechanisms for civil society input to deliberations at the regional level – for example through increased civil society representation at Mekong River Commission (MRC) committee meetings – and proactively disseminate the agreements reached at such meetings.
- Governments and regional organizations also develop improved dispute resolution mechanisms to facilitate the resolution of conflict across national boundaries.
- Civil society organizations create a network to improve the effectiveness of bringing an independent voice to official regional deliberations such as the GMS Summit. Further, they should assess the performance of such regional bodies, and report regularly the results of their monitoring.

Increasing Public Access to Environmental Information

Access to information about the environment is an essential platform for public participation in environmental governance, and is the right of every citizen. Citizens in the region require high quality environment-related information that is widely available. Accordingly the REF recommends that:

- Governments take responsibility to ensure collection of and to ensure availability of the following information to the public:
    - Ecological information – the ecological and cultural setting of the region;
    - State of Environment reports (updated frequently);
    - Information about national policies, plans, laws and regulations as well as information about international agreements and commitments that the governments have made;
    - Assessment information about the direct and indirect impacts of projects and policies, public and private, on society, health and the environment.

We further recommend that:

- Governments make and enact national "right to know" legislation ensuring public access to information on matters relating to the environment.
- Governments make and enact regulations requiring private companies to release environment-related information.
- Each government be responsible for creating a "one-stop shop" that brings together all the country's environment-related information and presents it in local languages and an accessible format.
- The scientific community (universities and research institutes of the region) play a role in ensuring the quality of environmental information in the public domain. The scientific community should share their environmental information with the public.
- All Mekong region governments make an inter-governmental agreement on environmental information exchange under the GMS framework. The existing MRC framework, under which some data exchange is already taking place, is inadequate. This mechanism should include sharing information about development projects.
- International and regional institutions such as the Asian Development Bank and World Bank, and bilateral agencies, in collaboration with national governments, proactively disclose information about development projects, rather than merely responding to public requests for information.
- At the regional level, civil society groups create a network to produce environmental information based not just upon national boundaries but also upon ecological-cultural regions (eg uplands, lowlands). This network could include non-governmental organizations, private voluntary organizations, community-based organizations, private sector actors and the media.
- At the local level, civil society organizations, community people and local government work together to demand and access information from the national level.

Improving Environmental Impact Assessment

Environmental impact assessment (EIA) is potentially a powerful tool for identifying environmental and social impacts of development policies and plans, facilitating inter-agency collaboration, and eliciting meaningful public participation. However, as currently practiced in the region, EIA is inadequate to achieving these objectives. Accordingly, the REF recommends that:

- Governments in the region apply EIA more comprehensively, not just to infrastructure projects, but also to activities such the designation of protected areas (which may have significant social impacts) and the introduction of exotic species or genetic material into ecosystems.
- Governments in the region expand beyond traditional EIA to include the use of social impact assessment, health impact assessment, and strategic impact assessment tools.
- Governments in the region implement international best practices to ensure meaningful public participation in the EIA process from the earliest stages of problem identification through options assessment and monitoring of performance.
- Governments in the region agree to a common standard of application of EIA to capture the cross-border impacts of all projects and policies with transboundary implications, including mechanisms to ensure the participation of all affected communities.
- Private corporations and project developers be held to a high standard of information disclosure and public consultation to support public participation in the EIA process.

Enhancing Enforcement of Environmental Regulations

The REF identified the lack of enforcement of existing environmental laws and regulations as a common problem across all countries in the region. REF participants believe that increased information disclosure and public participation are potent strategies for promoting improved environmental performance by government agencies and private corporations. Accordingly, the REF recommends that:

- Governments in the region facilitate increased information disclosure and public participation in the monitoring of performance of government and corporate entities, particularly compliance with the conditions of EIA approvals;
- Governments in the region strengthen the capacity and independence of regulatory authorities to enable them to be accountable to the law rather than to political or commercial interests;
- An independent and responsible press provide greater coverage to environmental compliance issues; and that
- Civil society promote public awareness of environmental compliance issues, for example via broadcasts on community radio.

Improving Access to Justice in Environmental Matters

Participants in the REF believe that judicial systems in the region are not yet playing an effective role in improving environmental governance. Weak laws and institutions constrain the ability of citizens to protect their rights and resolve disputes. Accordingly, the participants in the REF recommend that:

- Governments strengthen environmental laws and regulations to clarify institutional mandates and procedures;
- Governments remove barriers to access to justice – such as high costs and lengthy proceedings;
- Governments, media and civil society organizations educate citizens about their rights and responsibilities related to access to environmental information, decision-making and redress, and how to exercise those rights and responsibilities; and
- Governments provide alternative dispute resolution procedures.

Conclusions

Action on these recommendations will require significant political will, strengthened capacity, as well as financial resources, and increased collaboration across national and sectoral boundaries. Accordingly, the REF encourages enhanced networking at the regional level among all environmental governance actors, including government officials, parliamentarians, and civil society organizations. New forums are needed at the regional level to address the transboundary issues of forests, biodiversity, trade, etc. The REF further calls on the donor community to provide increased funding to governments, regional organizations, and civil society groups to implement the recommended improvements in the transparency, participation, and accountability of environmental governance in the region.

A Perspective on Burma

Tun Myint[1]

Introduction

Since the ruling State Peace and Development Council (SPDC) took power by military coup on September 18, 1988, the regime has intensified use of Burma's natural resources.[2] Desperately needing hard currency to sustain its military and engage in political and armed "annihilation"[3] of various insurgent groups,[4] the regime began exploiting the country's natural resources imprudently, and at an alarming rate. Since 1962 the Burmese economy had been centralized. However, beginning in 1989, SPDC adopted an open economic policy. The declaration of "Open Door" policies in early 1989 attracted foreign investment. The flood of foreign investment into various sectors of the economy brought concern for environmental issues. At the Earth Summit + 5 in 1997, the then Burmese foreign minister, U Ohn Gyaw, asserted that Burma's environmental problems were a result of "underdevelopment." As the nation strives to catch up with the rest of the world in terms of development, this trend is causing serious concern for many environmental issues in Burma. This national quest and campaign for "development" has met the dilemma of "sustainable development," where natural resources are the only available source of development capital.

Burma is now in the process of political transition. The political situation in Burma is at a critical juncture, while the United Nations (UN)-initiated "dialogue" between the military regime and the democratic opposition has stalled. At this political juncture, Burma has no constitution, no national legislative body, and no independent judiciary system. In other words, at present Burma lacks the fundamental structures of a stable society — such as political accountability, good governance, and effective and equitable enforcement of the rule of law — that are vital to the sustainable management of environmental and human resources.

In the context of regional environmental governance of the Mekong River Basin and ASEAN as a whole, Burma still remains, in many dimensions, an unpredictable factor due mainly to its internationally-recognized, unresolved political crisis. At the current juncture, the lack of rule of law and good governance systems pose both challenges and limited opportunities for environmental governance to address sustainable development

[1] I want to thank Nathan Badenoch, Win Min, and Carol Myint for comments on earlier drafts of this paper. Further comments are welcome. Please send them to tmyint@indiana.edu.
[2] Burma's military regime was originally named the State Law and Order Restoration Council (SLORC). In 1997, the SLORC was renamed the State Peace and Development Council (SPDC).
[3] SPDC uses this term in their propaganda campaign against the opposition.
[4] The number of personnel in three branches of military (Army, Navy, and Airforce) increased from 190,000 in 1988 to 429,000 in 2001. Intelligence sources estimated that Burma spent between US$1.5 billion and US$2 billion to purchase arms from China alone in 1990s. See also in "Yawn Sone Tamadaw" (Colorful Army), forthcoming publication, ABSDF Research and Documentation Center Office, Thailand, and in Bertil Lintner, "China and South Asia's East," *Himal South Asian: Burma Special*, October 2002.

in Burma. Taking this political condition as a fundamental basis of challenges for environmental governance, this paper will point out limited opportunities to strengthen environmental governance and discuss strategies for how people with concerns for environmental issues may overcome the challenges that exist under the current political context in Burma.

Without an interdisciplinary analysis of history, political context, and the current state of affairs, analysis of environmental policy in present Burma will be a mere critique of the current military regime's policy on paper. The policy on paper in Burma is usually not practiced by the military rulers themselves. The country is still ruled by martial law. Then Lt. General Khin Nyunt, the Secretary One of the present ruling council, stated on May 15, 1991 in an interview that martial law means "no law at all."[5] Therefore, the study of any type of policy in Burma under the current military regime needs to include an assessment of the activities of the military regime. In line with the assessment of policy on paper and the government's environmental activities in reality, this paper is organized under the following headings:

I. A Brief History
II. State of Environmental Policy and Governance
III. Natural Resources and Environment Issues at the Present
IV. Ongoing Political Crisis and Environmental Problems
V. Burma in the Context of ASEAN and Mekong Regional Environmental Governance
VI. Limited Opportunities for Environmental Governance
VII. Challenges and Strategies for Environmental Governance
VIII. Concluding Remarks

A Brief History

Burma, recently known as Myanmar, is the largest country in mainland Southeast Asia. The total land area of the country is 676,577 square kilometers and its population is 46.8 million. When Burma gained independence in 1948, it embraced a parliamentary democratic system. Further intensified by the legacy of British colonial system of "divide and rule" among various indigenous ethnic peoples, the country broke out into "civil war" after gaining its independence. However, the then Burmese leaders installed and maintained political stability by agreeing that all ethnic groups would live under the union flag for at least ten years and would then revisit the question of whether the ethnic nationalities should seek separation from the union.[6] The trust established among ethnic leaders under the leadership of U Aung San could not take root and last longer in Burmese politics after ten years of independence. The country fell into a crisis of national unity in 1958. In 1962, Burma became a totalitarian state under the Burmese army

[5] See "Burma: No law at all: Human rights violations under military rule," *Amnesty International*, October 1992.
[6] All parties to the Panlong Agreement signed on February 12, 1947 agreed that Burma should be a union of various indigenous ethnic groups. This agreement was due mainly to the efforts of U Aung San, who led Burma's struggle for independence from British colonial rule.

(*Tatmadaw*) led by the late General Ne Win. Since then Burma has been ruled by the military generals and the country has been isolated from the outside world.

The 8.8.88 People's Uprising (August 8, 1988) for restoration of democracy and human rights was followed by the killing of hundreds of protesters on the streets of Rangoon and other cities and a military coup led by the Burmese army. The army established the State Law and Order Restoration Council (SLORC) to govern the country. In 1990, SLORC held elections in which the opposition party, the National League for Democracy (NLD), won 82 percent of parliamentary seats. However, the military regime refused to recognize the election result and prevented the NLD from convening the national parliament. In late 2000, the UN appointed a Malaysian diplomat, Mr. Razali Ismail, as the UN Secretary-General's special envoy to Burma. Mr. Razali Ismail reportedly brokered "talks" between the military regime and the Burmese opposition, led by Daw Aung San Suu Kyi, in early 2001. At the present, these "secret talks" between the military regime and the democratic opposition have reportedly been stalled. Whether these secret talks will lead to a political transition in Burma is yet to be seen.

State of Environmental Policy and Governance

As a policy response and governance mechanism to address environmental issues, the Burmese military regime established the National Commission on Environmental Affairs (NCEA) in 1990 to "educate the public about environmental awareness."[7] NCEA is also charged with the duty to formulate a "comprehensive national environmental strategy" in pursuit of a "modern and developed nation" (NCEA Report to Earth + 5, p. 3). In 1994, NCEA adopted the National Environmental Policy. According to NCEA, the National Environmental Policy has two major tasks: (1) institutional development, and (2) carrying out the National Environmental Action Plan (Johnson and Durst, 1997; FAO Report, p. 194). The strategies adopted under these two tasks are:

Institutional Development

- Upgrading NCEA into a statutory body;
- Restructuring NCEA for policy implementation; and
- Achieving financial autonomy for NCEA.

These three objectives of institutional development for environmental affairs demonstrate that the military regime is aware of the need for institutional mechanisms to effectively address environmental issues. However, an assessment on a decade of institutional development of NCEA in Burma indicates that these three objectives have not been fully realized. The first two objectives have been progressing slowly. NCEA is far from achieving financial autonomy mainly because the government has not fully recognized NCEA as a statutory body that has authority to issue policies and implement them. Acute environmental issues such as forest degradation, water resources, and agriculture are completely under the authority of the respective departments and ministries that are

[7] Major General Khin Nyunt, Secretary-1 of SLORC and head of Military Intelligence, 14 May 1991, quoted in *The Working People's Daily* 16 May 1991

statutorily separate from NCEA, which is under the Ministry of Foreign Affairs (MFA). This institutional arrangement has slowed the development of NCEA as a statutory body. Therefore, although the language of NCEA is in tune with the challenges Burma faces in environmental affairs, the current institutional setting of NCEA hinders the progress of an institutional breakthrough to first achieve the right mechanism to deal with environmental affairs.

National Environnemental Action Plan

The National Environmental Action Plan focuses on:

- Drawing up comprehensive environmental legislation, reviewing and drafting sectoral legislation;
- Conducting environmental impact assessments and setting up environmental standards;
- Collecting environmental data;
- Promoting environmental awareness;
- Alleviating poverty; and
- Setting up sectoral linkages.

NCEA's national environmental action plan again demonstrates that the military regime is aware of the depth and breadth of environmental governance. What is happening in reality, however, is different from the policy on paper. In the absence of a constitution, a national parliament, and a legislative body, there is at present no appropriate and working mechanism in Burma to pass national legislation to address environmental problems that require input and compliance from different sectors. Among all the listed actions in the National Environmental Action Plan, promoting environmental awareness has perhaps achieved the most success. According to the National Environmental Policy, NCEA is presently focusing on promoting public awareness for environmental protection and securing the active participation and cooperation of the public in environmental conservation efforts. The Secretary One of SPDC reported on a success of environmental awareness efforts in Burma at the celebration of World Environment Day on June 5, 2002:

> "A case in point is the example of the Women and the Environment Sub-committee under the Myanmar National Working Committee for Women's Affairs working together with the NCEA to promote environmental awareness and non-formal environmental education in the country. In case of formal environmental education, a course on 'environmental studies' is now being introduced at the institutes of higher learning."[8]

The establishment of NCEA and emergence of environmental policy in Burma is facilitated by global awareness and initiatives taken by the UN. The then chairman of NCEA, U Ohn Gyaw, who was also the foreign minister of the military regime, stated:

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[8] Myanmar Information Committee, Yangon, Myanmar Information Sheet N0. C- 2238 (I), June 6, 2002.

> "Burma's commitment and concern for the global and national environment is reflected in the signing of the Framework Convention on Climate Change and the Convention on Biological Diversity at the 1992 United Nations Conference on Environment and Development (UNCED). Environmental protection and conservation occupy a place of special significance on the national agenda of Burma, and Burma's National Commission for Environmental Affairs will continue to strengthen its efforts for preserving and protecting the environment while participating and cooperating in the global effort." (UN Burma Permanent Mission Office at http://www3.itu.int/missions/Burma/)

Since Burma gained independence, NCEA and its policy framework is the first and only initiative of its kind that is designed to address environmental issues in Burma. The military regime also announced that it fully supports the concepts of "sustainable development" for Burma "to become a modern and developed nation." The conceptual framework of "sustainable development" is "to ensure that it meets the need of the present without compromising the ability of future generations to meet their own needs" (*Our Common Future*, 1986: 8). In order to meet the challenges of the sustainable development framework, Burma must carefully plan its social and economic policies in the process of pursuing development. The Burmese military regime argues that Burma's environmental concern lies in the problem of underdevelopment rather than in concerns such as industrial pollution and unsustainable lifestyles, which are major issues in developed countries. Therefore, the current approach to environmental issues, according to the military regime, is "protection and conservation of environment," which will be used in the development process.[9]

Table I: Current Major Environmental Legislation

Law and Regulation	Year	Purpose
Factory Act	1951	To make effective arrangements in every factory for disposal of waste and effluence, and matters on health, cleanliness and precaution against danger.
Public Health Law	1972	To promote and safeguard public health and to take necessary measures in respect of environmental health.
Territorial Sea and maritime Zone Law	1977	To define and determine maritime zones, contiguous zones, exclusive economic zones and the continental shelf and the right of the Union of Myanmar to exercise general and exclusive jurisdiction over these zones and the continental shelf in respect of preservation and protection of the marine environment and prevention of marine pollution.
Fishing Rights of Foreign Vessels Law	1989	To conserve fisheries and to enable systematic operation in fisheries with participation of foreign investors.
Marine Fisheries Law	1990	To conserve marine fisheries and to enable systematic operation in marine fisheries.
Forestry Law	1992	To implement forest policy and environmental conservation policy, to promote public cooperation in implementing these policies, to develop the economy of the State, to prevent dangers of destruction of forest and

[9]See http://www3.itu.int/missions/Burma/.

		biodiversity, to carry out simultaneously conservation of natural forests and establishment of forest plantations and to contribute towards the fuel requirement of the country.
National Environmental Policy	1994	To establish sound environment policies in the utilization of water, land, forest, mineral resources and other natural resources in order to conserve the environment and prevent its degradation.
Protection of Wildlife and Wild Plants and Conservation of Natural Areas Law	1994	To protect wildlife, wild plants and conserve natural areas, to contribute towards works of natural scientific research, and to establish zoological gardens and botanical gardens.
Myanmar Mines Law	1996	To implement mineral resources policy.
Fertilizer Law	2002	To boost development of agricultural sector, control fertilizer business, and to facilitate conservation of soil and environment.

Source: "The World of Information: Asia and Pacific Review", *The Economic and Business Report*, 1997 Sixteenth Edition; Also see UNDP Human Development Report, 1998.

Although Burma has a number of environmental laws and regulations *(see Table I)*, it lacks the institutional framework to carry out "protection and conservation of environment" so as to achieve "sustainable development" by implementing these laws. On top of that, there is no serious political will to pay sufficient attention and to deal with environmental affairs effectively. The establishment of NCEA under the Ministry of Foreign Affairs (MFA) is one question to ponder for an observer. Why would environmental matters be put under the MFA? It is discernible that the regime's motive behind the creation of NCEA under MFA is to showcase its image to the outside world. If the regime is serious about tackling environmental matters, it would have established a separate ministry or department and appropriated adequate financial and human resources to tackle environmental matters systematically. Another pretense of the regime can also be detected in the announcements of these major environmental laws, which are broad and do not often have substantive and specific standards or regulations in practical governance of daily environmental issues. One should be cognizant of the fact that both the creation of NCEA and announcements of these major laws occurred during the period in which the regime was struggling to attract foreign investment and planning to promote tourism in Burma under the slogan known as "Visit Myanmar Year 1996."

Burma's Natural Resources and Environmental Issues at Present

Overview

As one of the most fertile and mineral-rich countries in Asia, Burma is a land of "stunning ecological diversity" (Smith, 1994:12), which is reflected in the existence of diverse cultures, histories, and traditions of the many ethnic groups living with nature in the highlands and lowland areas of the country. Ecosystems in Burma vary from tropical islands, rainforests, lush tracts of mangrove, and great rice-growing plains in the south to snow-capped peaks of mountain pine in the north. In addition, Burma is endowed with a rich diversity of habitat types arising largely from its unique ecological diversity. It is home to 300 known mammal species, 300 reptiles, and about 1,000 bird species, and is a haven for about 7,000 species of plants (NCEA Report: p. 7). Two biodiversity assessments, the World Resources Institute's *Last Frontier Forests* and Conservation

International's *Global Biodiversity Hotspots* rank Burma among the top priority countries in mainland Southeast Asia, along with Laos and Cambodia.

Moreover, Burma has rich forest with the world's finest teak, which was one of the reasons why the British colonized Burma. There are many varieties of gems and stones in Burma. The weather and natural river systems in Burma favor agricultural practices and at least two crops can be harvested annually in most parts of delta areas. Unlike many other Southeast Asian countries, Burma still has vast amounts of uncultivated land. Eighty-eight percent of total area of 67.6 million hectares is still available for further expansion of mixed and multiple cropping, especially in lower Burma where the moisture content of the soil and water availability is much better than in upper Burma.

However, this environmental endowment and Burma's status of being "rich in natural resources," which is often proudly claimed by its leaders, is being threatened by unfettered exploitation of natural resources occurring within the current political crisis in Burma. The controversial UNOCAL/TOTAL gas pipeline project to Thailand, secret and illegal logging concessions, the latest Khakaborazi Ski Resort, and Salween Dam schemes are some of these examples where Burma's natural resources are being exploited in secrecy behind ongoing political crisis.[10] None of these so-called development projects or contracts were decided by legitimate government bodies, underwent due process, or passed through environmental planning phases. Therefore, some observers might argue that Burma no longer possesses the above-mentioned status of being rich in natural resources.

Agriculture

Burma's economy is mainly dominated by the agricultural sector, which generates more than 50 percent of total GDP and employs over 60 percent of the total labor force, according to quarterly reports of the *Economist Intelligent Unit* during the period between 1998 and 2002. Since the agricultural sector contributes a major share of foreign exchange earnings, the agricultural policy of the government in Burma is to increase production. Increasing agricultural production by ways of extensive and intensive farming means utilization of land, water, and other natural resources, in association with cultural agronomic technologies. This has a direct impact on the condition of soil and water, which, if not properly managed, could lead to environmental degradation. There is no legal or regulatory mechanism to balance the growth of agricultural industries and the rise of environmental impacts.

In addition, increasing use of chemicals and pesticides in the expansion of agricultural production could also lead to soil and water pollution. According to the NCEA's 1992 report on environment and development, the use of fertilizers, in the long term, would

[10] See in Edit T. Mirante, "Gunboat petroleum: Burma's Unocal/Total pipeline," *Environmental News Network*, Friday April 26, 2002. For Khakabori Ski Resort, see "Thai PM Thaksin heads to talks with Myanmar's leaders," *AFP*, Sunday February 9, 2003. For logging, see *Logging Burma's Frontier Forests: Resources and the Regime*, World Resources Institute, Washington, DC, 1998; also see *The Irrawaddy*, Vol 9. No.8, October-November 2001 at http://www.irrawaddy.org/database/2001/vol9.8/cover.html and World Rainforest Movement's bulletin Nº 54, January 2002.

increase to 600,000 metric tons annually by the year 2000. In October, 2002, it was reported that the annual demand for fertilizers had reached one million tons.[11] Although Burma has not yet faced high population density problems like many developing countries in Asia, it has already reached the point where the use of land for agriculture has intensified due to pressure to increase agricultural products for export. The Asian Development Bank's country statistics show that the population in Burma reached 49.0 million in 2000, compared to 42.3 million in the government's official statistics in 1992.[12] Therefore, environmental problems, further exacerbated by the agricultural sector because of expected increases in population and food demand, are in the making.

Forestry

In line with the policy of "protection and conservation of environment," NCEA initiated forest protection and conservation activities by establishing a Forest Conservation Committee in Burma. NCEA states that one of the main objectives of the Forest Department is to "manage its forest in such a way that they contribute increased sustained yield and value-added products." From an estimated forest cover of 500,000 square kilometers, or 70 percent of Burma's total land area in 1948, NCEA insists that 50 percent of the country is still covered with forest today (NCEA Report, p.12; Smith, 1994: p. 12).

However, one of the most visible threats to Burma's environment today is the rapid depletion of many of the country's once great forests. Independent observers' estimates put remaining forest cover in Burma at closer to 30 percent of its total land area. The Rainforest Action Network, for instance, has calculated Burma's annual deforestation rate at 800,000 to 1 million acres a year, which indicates that the rate of deforestation in Burma is one of the five highest in the world.[13] Another independent source puts the rate of deforestation between the regime's claim and the Rain Forest Action Network's report, stating that Burma's forest cover as percent of original forest is 40.6 percent.[14] Even though statistical figures are different between the government's estimates and independent estimates, the clear message here is that Burma's forests are facing degradation at an alarming rate.

The Burmese military government claims that the degradation of Burmese forests is due to "shifting cultivation, local fuel wood shortage, and to a certain extent, the impact of population growth." According to UN Food and Agriculture Organization-sponsored research conducted between 1985 and 1990, the rural population (30.9 million out of 41 million from the 1990 census) relies heavily on fuel wood and charcoal for cooking,

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[11] See "Myanmar's fertilizer production continues to drop in 2002," Xinhua News, April 18, 2003 at http://english.eastday.com/epublish/gb/paper1/877/class000100001/hwz129502.htm.
[12] See *Statistics and Data Systems Division,* Asian Development Bank, September 13, 2001, full report at http://www.adb.org/statistics.
[13] See "Working elephants make last stand in Myanmar's teak forests," Associated Press, March 3, 2001.
[14] See *World Resources 2000-2001: People and ecosystems: The fraying web of life*, United Nations Development Programme, United Nations Environment Programme, World Bank, and World Resources Institute, Washington, DC, 2000. Full report at http://pubs.wri.org.

lighting, and space heating in the cold season.[15] This trend of fuel wood consumption during the previous decade continued at the same level between 1990 and 2000, if it did not increase. However, the military government's claim fails to include the deforestation caused by rapid development of the logging trade under blanket secrecy.[16] New commercial contracts[17] were first offered by the regime in late 1988 to neighboring Thailand. Many logging companies do not necessarily follow logging standards required by the Burmese government under the system known as the Burma Selection System (BSS),[18] which was created during the colonial period.

As a response, the current military regime has enacted a number of laws in order to protect and conserve national forests. The 1992 Forest Law recognizes the value of forest beyond commercial uses. It emphasizes "conservation and protection" to meet the needs of the public and the "perpetual enjoyment of benefits" from forest (Government of Myanmar, 1992). Although the competence, skills, and commitment of the personnel within the Forest Department are high, these laws, in reality, are no more than window dressing since the top level officials of the military regime are getting rich from bribery provided by logging companies that often do not follow the written laws.[19] Therefore, although Burma is not in immediate danger of wiping out its forest in the next few years, current activities in Burma's forests, especially intensive logging in eastern and northeastern border areas, are leading to disturbing trends in widespread, and socially destructive, environmental decline. The likely permanent damage to the biodiversity-rich remaining forests of Burma is a potential environmental crisis in the making.

Ongoing Political Crisis and Environmental Problems

The study of any policy or issue about Burma must pay attention to what is happening on the Burmese political stage and its history. The political instability and state of fragile governance is one of the crucial problems that caused Burma to become one of the less developed countries (LDCs) among UN members since 1987. Burma is perhaps one of the strong cases where the lack of political development hinders economic and social progress. No period in Burma's history other than the present time, with its ongoing political crisis, has witnessed such encumbrance of the country's potential social and economic progress. This is because almost all noble functions of State of Burma cannot be carried out, and the motivation of people as citizens has been crushed by dictatorial rules. How this politically complex context contributes to the environmental affairs

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[15] See *Sectoral Energy Demand in Burma*, Regional Energy Development Programme, United Nations, Bangkok (1992).
[16] See *Logging Burma's Frontier Forests: Resources and the Regime*, World Resources Institute, Washington, DC, 1998; also see *The Irrawaddy*, Vol 9. No.8, October-November 2001 at http://www.irrawaddy.org/database/2001/vol9.8/cover.html and World's Rainforest Movement's bulletin Nº 54, January 2002.
[17] See "Logging in SE Asia and international consumption of illegally sourced timber" *Environmental Investigation Agency and Telapak Indonesia (2002)*, full report at http://www.eia-international.org/Campaigns/Forests/Reports/timber/timber04.html.
[18] The Burma Selection System requires recording the age of trees. It involves a 30-year felling cycle based on minimum size selection criteria. Source: www.Burma.com/gov/perspec/.
[19] See "Thai-Burmese Illegal Logging Involves Influential People," *Bangkok Post*, January 4, 1998.

cannot be seen in a simple step of causality. For instance, the presence of refugees in the Thai-Burmese border has started to cause alarm by putting pressure on natural resources and the public health systems at border towns and villages.[20]

Furthermore, it is observed and reported in many parts of the world the environment is threatened more than ever before because of the conversion of natural resources into other forms of economic capital through process of "*accelerated acquisition of capital*" (Baker, 1993: 116). Because of the absence of good governance and appropriate institutional mechanisms to check and balance the exploitation of natural resources against environmental degradation, Burma is beginning to experience this process. It will soon follow the trends of other societies in the mainland Southeast Asia, such as Thailand, where original natural forests in lowland areas have been turned into rice paddies, fruit orchards, infrastructure, and golf courses, and forest animals are traded in tourist-crowded local markets. To further assert the sad truth, even women and children are smuggled and traded along the borders of Burma, China, Laos, and Thailand.[21] The ongoing political instability in Burma and political decay in the regional context of the Mekong have provided havens for such inhumane and often neglected social problems, which continue to haunt environmental arenas in these countries.

Burma's lack of political stability is one fundamental root that is contributing to illegal activities. Over time, the existence of various insurgent groups and political instability have contributed to the region's emergence as a major center for heroin production. It is reported, for instance, that most of heroin found in the streets of the United States is from the golden triangle region, which is made up of Burma, Laos, and Thailand.[22] Therefore, Burma's political instability does not contribute to the long-term development of good governance in Mekong Region.

Local Rights in National Development

One of the fundamental challenges Burma must address if sustainable development is to be achieved is the issue of local people's rights to manage the natural resources on which their livelihood is based. When the globalization of economic activities intensifies pressure on a country like Burma where there is no solid foundation of rule of law, the most vulnerable victims are local people and the natural environment. The increasing border trade between Thailand, Burma, and China has opened up more economic activities that lead to the break down of traditional ethnic societies. One widely quoted case is the longneck hill tribe women from the border, who were being kept in a village on the Thai-Burma border to show to tourists.[23] Within the context of this global phenomenon, communities and places under the greatest environmental threat today are generally those inhabited by the most vulnerable members of society, including the poor,

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[20] See **"**Killer flash flood blamed on logging by refugees," *Bangkok Post***,** Thursday September 5, 2002**;** also see "Villagers lose patience with Burmese refugees," *Bangkok Post*, p. 3, April 20, 2003.
[21] See Refugee Reports, Vol. 21, No. 5 (2000), US Committee for Refugee at http://www.refugees.org/world/articles/slavery_rr00_5.htm.
[22] See *Newsweek*, July 16, 2001, *Sydney Morning Herald*, July 3, 2001, *Bangkok Post*, January 11, 2001.
[23] See "A Report on 'Human Zoo'," *The Nation*, October 12, 1997; also see "We Are Not A Zoo," *Asiaweek,* Vol 25, No. 4*,* October 29, 1999.

ethnic minority groups, women, children, refugees and other internally displaced people. Indeed the lives and living conditions of rural populations along the Burma's borders and within the country are examples of this phenomenon.

A similar view has been taken by the then Special Rapporteur of the UN Sub-Commission on Prevention of Discrimination and Protection of Minorities, who was assigned by a UN resolution in 1990 to investigate the link between "protection of environment and promotion of human rights." The Special Rapporteur, Mrs. Fatma Zohra Ksentini wrote:

> "Human rights violations in their turn damage the environment. This is true of the right of peoples to self-determination and their right to dispose of their wealth and natural resources, the right to development, to participation, to work and to information, the right of peaceful assembly, freedom of association, freedom of expression, etc."[24]

Burma today is a country where villagers are still being killed or threatened with violence simply to move them off their land or to appropriate their natural resources. The gas pipeline undertaken by TOTAL Oil Company of France and UNOCAL (Union 76) of the United States is a widely cited case that involved forced relocations of villagers along the area where the pipeline runs through from Burma to Thailand.[25]

Burma in the Context of ASEAN and Mekong Regional Environmental Governance

In 1997, Burma became a member of the Association of South East Asian Nations (ASEAN). It has also signed a number of the international environmental conventions. For instance, Burma has signed, acceded to, or ratified the Convention on Biological Diversity (1994), the Convention on International Trade of Endangered Species (1979), the International Tropical Timber Agreement (1996), the Framework Convention on Climate Change (1994), and the United Nations Conference on Environment and Development (See Table II). It receives funds through the Global Environment Facility. Burma's path is leading toward increased international engagement, which is regarded by many observers as a strategic move made by the regime to gain legitimacy. This international engagement can open up channels of communication to discuss environmental issues with the military government. The regime has shown, through their environmental initiatives, a "greening" in some of their policies. Although it can be argued that the regime's policies on paper are lip service, the regime has at least demonstrated some awareness of environmental issues in Burma.

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[24] See "Human Rights and the Development," *Commission on Human Rights: Sub-Commission on Prevention of Discrimination and Protection of Minorities, 46th Session.* Full report at http://www.eel.nl/docs/ksentini.htm.

[25] See "Development, Environment and Human Rights in Burma/Myanmar: Examining the Impacts of ODA and Investment," Public Symposium Report, Tokyo, Japan, Date of publication:15 December 2001, full report at http://www.mekongwatch.org/english/documents/burmareport-screen.pdf.

Table II: International Conventions Ratified or Signed Concerning Environment

International Conventions Concerning Environment	Year in force
Plant Protection Agreement for the Southeast Asia and Pacific Region	1959
Treaty Banning Nuclear Weapons Test in the Atmosphere in Outer Space and Under Water	1963
Outer Space Treaty: Treaty on Principles Governing the Activities of States in the Exploitation and Use of Outer Space including the Moon and other Celestial Bodies	1970
Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological and Toxin Weapons, and their Destruction	1972 (signed)
MARPOL: International Convention for the Prevention of Pollution from Ships 1973	1988
MARPOL Protocol: Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships 1978	1988
Agreement on the Networks of Aquaculture Centers in Asia and the Pacific Region 1988	1990
Treaty on the Non-Proliferation of Nuclear Weapons	1992
ICAO: ANNEX 16 Annex to the Convention on International Civil Aviation Environmental Protection Vol. I, Aircraft Noise	1992
ICAO: ANNEX 16 Annex to the Convention on International Civil Aviation Environmental Protection Vol. II, Aircraft Noise	1992
Vienna Convention for the Protection of Ozone Layer	1994
Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)	1994
London Amendment to the Montreal Protocol	1994
Convention on the Prohibition of the Development, Production and Stockpiling and Use of Chemical Weapons and their Destruction	1994
Convention Concerning the Protection of the World Cultural and Natural Heritage	1994
Framework Convention on Climate Change (FCCC)	1995
Convention on Biological Diversity (CBD)	1995
United Nations Convention on the Law of the Sea	1996
International Tropical Timber Agreement: ITTA	1997
United Nations Convention to Combat Desertification	1997
Convention on International Trade In Endangered Species of Wild Fauna and Flora (CITES)	1997

At the same time, ASEAN is increasingly leaning towards regional cooperation in dealing with environmental problems. In September 1997, ASEAN members signed the Jakarta Declaration on Environment and Development. They pledged to use resources efficiently and sustainably, to set up a regional ASEAN Center for Biodiversity Conservation, and to support and empower communities to achieve their eco-efficiency objectives. On the other hand, because of the increased work of the Mekong River Commission (MRC) and its eminent role in the Mekong region, the MRC is one transnational institutional mechanism that can be used to work with the current regime to establish much needed baseline data and information about the true state of the environment in Burma.

Limited Opportunities for Environmental Governance

Although I have necessarily and critically emphasized a bleak view of the current political context and governance structures, there are some opportunities that exist in Burma for environmental governance. I will briefly discuss some of the existing mechanisms that are appropriately addressing the importance of environmental issues in Burma.

Smithsonian Engagement

The Smithsonian Institution has been working with the Forest Department in Chatthin Wildlife Sanctuary since 1992. The goal of this ongoing project is to build local capacity in order to secure the future of the ecosystem (Smithsonian Institute, 2000). This goal is accomplished through training the sanctuary staff, conducting ecological research, and fostering community-based conservation. During the eight years from 1992 and 2000, training sessions on bird, mammal, herpetology, and entomology inventories, community relations, and environmental education were offered. During the training period, about 100 people participated in the various training sessions, according to the Smithsonian Institute. However, the strength and prospects of this project relies upon the good graces of the Forest Department. With a simple change of leadership in wildlife sanctuary superintendent, the project can face unpredictable jeopardy, and can be unnecessarily delayed. There is a lack of institutional structure to support such a project for the long term, even though the project may survive in the short term through management of "personal diplomacy." The Burmese government sees these projects as window dressing opportunities to gain international reputation and much desired legitimacy, especially if it can be gained from "less" political issues, such as environmental concerns. It is prudent to assume that the military government does not want this type of project to expand too deep into other wildlife sanctuaries or environmental concerns. The perceived reason is that these external projects will risk giving the impression that the government is incapable of organizing and managing such projects without outside intervention. The regime is constantly claiming that it is protecting Burma's sovereignty and independence from outside influences. Therefore, even though a project like this can be initiated and survive at a minimal level under the current regime, these projects face an uncertain future in Burma's political struggle. However, the positive outlook of these projects is that if they continue to operate within the workable framework at present, these types of projects will contribute enormously to environmental governance once the country becomes an open and democratic society.

Wildlife Conservation Society's Efforts

Rao et al. (2002) reported the Wildlife Conservation Society's (WCS) remarkable efforts on assessing 22 out of the 31 official protected areas in Burma. Such a scientific assessment of environmental status in Burma is needed and can rarely be done for many reasons. However, the Wildlife Conservation Society, with the assistance of Forest Department personnel, was able to do this important assessment of protected areas and came up with empirically grounded strategies to help strengthen current conservation efforts. Meanwhile, WCS also worked closely with the Forest Department in the creation of the new 3,812 square kilometer Khakarborazi National Park.

The WCS-led study found that grazing, hunting, fuel wood collection, and permanent settlements occurred in more than 50 percent of the protected areas surveyed, with biodiversity loss severest in older protected areas than newly created national parks, such as the Khakaborazi National Park (Rao et al., 2002: 364). The study issued eight recommendations including building the technical capacity of protected areas staff, involving local communities in protected areas management, implementing a comprehensive land use plan, controlling hunting and amending the wildlife laws to

fulfill international treaty obligations. This type of assessment can be adapted to other areas of environmental concerns such as status of the management of forests, rivers, lakes, and wetlands.

UNDP Watershed Project Initiatives

The United Nations Development Program (UNDP) has been engaged in at least three ongoing projects as a part of its Human Development Initiative (HDI). These projects are located at: (1) the Dry Zone, (2) Ayeyarwady Delta, and (3) Southern Shan State. These projects aim to promote environmentally sustainable practices, food security, and micro-income opportunities. One of the successes of the UNDP project is in Southern Shan State, where deforestation, shifting cultivation, poverty, overgrazing, and forest fires are constant problems. The Southern Shan State project relies heavily on community forest initiatives to enable communities to regain control of their forests, feel a sense of ownership, and promote true responsibility in taking care of the forest. Since the project's inception in 1994, a total of 764 acres have been accepted as community forest, and another 1,335 acres have been reported as pending. Although the number of acres under community forests is small, the UNDP project has identified a total of 306,516 acres as potential community forests (Sterk, 1999). The UNDP has wider political acceptance and legitimacy in the views of the government and people in Burma. At the same time, the status and image of the UN and its agencies is relatively sensitive and more open to criticism by the international community, NGOs, and the Burmese opposition that may advocate isolationist positions against the military regime. Therefore, the dilemma of aid from UN agencies is more intimately tied to the political context of Burma than those of independent international agencies, such as the Smithsonian Institute and WCS, that may choose to aid Burma regardless of criticism.

Although the opportunities exist and they can be used to initiate environmental governance in Burma, it is difficult to predict the extent of potential positive outcomes and whether these projects can sustain momentum for the long term. The military regime has not yet publicly or officially admitted to dialogue with the Opposition through the UN-initiated talks. As long as the regime refuses to admit publicly that the transition to democracy will happen through this dialogue, these projects will continue to face an uncertain future.

Challenges and Strategies for Environmental Governance

The challenges for environmental governance in Burma are rooted in three dimensions: (1) institutional development; (2) budget or resource capacity; and (3) knowledge or environmental education (capacity building). Institutional development for environmental governance is hindered by many factors, including the lack of political will and ongoing political crisis. As discussed earlier, NCEA has not yet become a statutory body. Resource capacity or budget for environmental governance is at the bottom of the list of the military regime's priorities. There is no official report from the regime as to how much of the annual budget is appropriated for environmental governance, such as for building infrastructure or monitoring and enforcing environmental laws and training staff. According to the Wildlife Conservation Society's survey report, "none of the protected

areas surveyed had the necessary infrastructure for effective reserve management or sufficient on-site personnel to perform park management activities adequately" (Rao et al., 2002: 364). The environmental education of the general populace and among the staff at the relevant ministries is another area of challenge for environmental governance in Burma. For instance, Rao et al. (2002: 363) reported that only 35 percent of national parks surveyed had approximately half of their staff trained with basic field techniques. If one of the most active areas of environmental governance, such as the national park management or protected area management, has such a small number of staff trained systematically, one can imagine the low level of environmental management education in other areas of environmental governance. Therefore, the first challenge for environmental governance in Burma is to understand the depth and breadth of the challenges that lie in these three dimensions.

Strategies

In a broader sense of promoting good governance, the international community putting pressure on the regime to adhere to the rule of law is one possibility for envisioning a future scenario for Burma's environmental governance. As Burma has signed a number of important international environmental conventions, these conventions can be used to monitor its environmental affairs. At the same time, these conventions provide mechanisms for international environmental organizations to engage with the military regime and test its willingness to abide by international standards. International environmental NGOs and UN agencies can engage in ad hoc training in environmental law related to the conventions to which Burma is a party. This approach can be initiated with the projects to train relevant government officials to understand these international environmental laws and treaties. Such an approach might be carried out by a credible international NGO that has both capacity and genuine interest in Burma's environmental future. Another channel to launch this type of ad hoc approach might be by using some mechanism of ASEAN and the MRC, both of which could provide training courses on international environmental treaties and law for relevant government officials. For instance, training government staff in the Forest Department about the international standards of protected area classification, field techniques, survey methods, and environmental education in general can lead to the creation of more protected areas in Burma.

After testing the regime's seriousness to adhere to international environmental conventions, the specific strategies that are in line with the 1994 National Environmental Policy can be applied to support institutional development of NCEA. First, the institutional development of NCEA to become a separate statutory body of environmental policy and governance might be accelerated by partnership with an international organization such as UNDP, UNEP, the Global Environmental Facility, or a regime-accepted international donor agency. A potential international funding organization or agency might approach the regime by offering a loan or aid with a condition to concede to an agreement between the government and funding agency to establish a ministry or department of the environment. Institutional development efforts can be put under a joint partnership and monitored to ensure the realization of such a ministry or department. The concession agreement should clearly outline workable mechanisms and functional

autonomy for the ministry or department to implement both domestic and international environmental laws and policies. Ideally, a UN environment-related agency would take such an approach, because the military government's trust in such an agency is much higher than in a country-based international environmental NGO. However, it is to be expected that anti-regime forces would criticize such a project. If such a project dared to embrace a political cause, the concession agreement should clearly state that the monitoring board of institutional development for the NCEA must be composed of representatives from the regime, funding agencies, and the democratic opposition led by Daw Aung San Suu Kyi. Such an approach would avoid unwanted criticism from the Opposition. Perhaps, such a partnership project could contribute to UN-initiated dialogue between the regime and the Opposition.

Second, by applying Conservation International's (CI) Guyana model of "conservation concession," there is a potential to increase more conservation areas in Burma. It is reported that only 2.26 percent of the total area of the country is designated as protected area (Nature and Wilderness Conservation Division, 1999; Rao et al., 2002: 361). CI obtained the first conservation concession in 2000 from Guyana, a small former British colony on the north coast of South America. A concession is a lease on a parcel of land granted by a government for a specific purpose. In the Guyana case, CI leased a 200,000-acre tract in the remote southeastern corner of the country for application fee of $20,000 and fifteen cents per acre annually. CI then put up additional funds for management of the tract as a nature reserve. The initial period is for three years during which both parties will negotiate the rate for subsequent 25 years (Wilson, 2002: 172-173). This model can be applied to increase conservation areas in Burma. This, however, requires strategic selection of biodiversity-relevant sites of global importance within Burma and assurance of enforcement mechanisms from the military regime.

Finally, to prevent the illegal trade of wildlife and timber in border areas, there is a need for transboundary cooperation among Burma and neighboring countries. Because wildlife protection and deforestation in Burma are largely driven by international and cross-border demands, it is important for Burma to engage in transboundary cooperation with neighboring countries. Transboundary measures should be promoted especially among Burma, China, and Thailand. The emergence of such measures will depend on the political wills of neighboring countries. First, it will require an appropriate platform to address the issue. One place to start injecting transboundary environmental cooperation for Burma, China, and Thailand would be through the Asian Development Bank (ADB)-supported Greater Mekong Sub-region (GMS) development scheme. If ADB funding for the development of roads and energy networks in GMS region comes up with transboundary environmental conditions, it is more likely to succeed in at least the establishment of an official transboundary environmental coordination committee. Another model of the transboundary cooperation is the model of the Haze Technical Task Force set up by ASEAN to solve sub-regional issues. Although the Haze Technical Task Force was not a successful case due to the lack of an operational agenda, it at least provides an example to start dialogue on sub-regional transboundary issues such as wildlife trade and illegal timber trade.

Concluding Remarks

Burma, a country that has suffered a great deal from political instability, war, and repression, stands to lose much of its remaining natural resources at an alarming rate. The military regime's "protection and conservation" of natural resources and environment as a "national endeavor," has been couched in progressive language. The implementation of the National Environmental Policy has yet to find appropriate institutional mechanism. The lessons from the use of limited opportunities with the right strategies has shed some dim light on the issue, in that it may help the further development of appropriate institutions for environmental governance. However, any strategic environmental engagement with the military regime will have to bear in mind that a fruitful result for sustainable environmental governance in Burma and consequently in the Mekong region will depend on the existence of good governance practices, namely transparency, accountability, rule of law, an independent judiciary system, and mechanisms to encourage local participation in environmental decision-making are crucial elements for good governance. Burma lacks a majority of these elements, with limited possibilities for local participation as seen in UNDP's success story. Therefore, until and unless a national reconciliation is reached and political differences are resolved among all concerned parties, Burma's environmental future will be held "hostage" by political instability. It is desirable that the short-term successes of those projects discussed in preceding section lead to the rescuing of the hostage. There are opportunities to create more success stories if appropriate action is taken.

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A Perspective on Cambodia

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Introduction

Sustainable development would not be sustainable without sustainable environmental management, as people's livelihoods depend on the condition of their environment. Environmental sustainability requires institutional implementation at every level, which means that development, economic, and political decision-making processes affecting the environment must be formulated using a holistic approach, and must include the full participation of the public. A comprehensive environmental framework encompasses democratic governance in the management of natural resources and energy development.

This perspective paper addresses environmental issues in Cambodia and in the greater Mekong sub-region. More importantly, it articulates the importance of institutional management of environmental policy. In a regional context, the substance of this work identifies policy linkages among national institutions, such as the Ministry of Environment (MoE), regional environmental institutions, such as the Mekong River Commission (MRC), and non-governmental organizations (NGOs).

This paper is organized in four sections: (1) Cambodia's general environmental situation; (2) developments in the policy and institutional setting; (3) Cambodia's contribution to regional environmental management; and (4) best practice and future prospects.

General Environmental Situation

Domestic Situation and Priority Areas

Over the last 20 years, Cambodia's forests have been degraded by war, wood harvesting, and the expansion of agriculture. In the future, this degradation will increase even more, mainly because of high levels of forest reclamation and illegal logging, which are carried out without regard for technical standards.

During these 20 years of internal turmoil and anarchy Cambodia's forest cover was reduced by 11.2 percent (Hong, 1997), resulting in increasing problems for the country's agriculture and fish stocks, not to mention increased social consequences. As a result, the Royal Government of Cambodia enacted the National Environmental Action Plan (NEAP) in response to Cambodia's main environmental challenges. Key priority issues include: (1) deforestation; (2) shortage of fish and floodplain agriculture in the Tonle Sap region; (3) coastal fisheries; (4) degradation of inundated forest; and (5) urban waste.

Information about the Environment

Information about the environment in Cambodia has been insufficient. The lack of reporting on environmental indicators makes it difficult to grasp the status of Cambodia's environment.

Cambodia has a population of 11.5 million people. The Cambodian economy depends largely on agricultural production: 80 percent of the country's economy is based on agriculture. Local NGOs, such as the Partnership for Development in Kampuchea (PADEK), and international NGOs, such as Oxfam America, have been able to provide data on environmental concerns in Cambodia.

Rural Cambodians depend on natural resources for their livelihoods. Irrigated land constitutes about 16 percent of the 1,821,000 hectares of land under rice production;[26] the remaining depends on rains in the wet season (June-November). The average rice yield is around 1.98 tons/ha.[27] However, in some places, this figure is lower during drought or floods.

1) Deforestation: Supplemental Revenue

Extensive civil conflict in Cambodia has led to severe financial and physical destruction. The Royal Government of Cambodia sold natural resources for supplemental revenue for reconstruction. The government legalized commercial logging beginning in 1993, but has imposed restrictions since 1998.

Logging has had serious impacts on local livelihoods, affecting agricultural productivity and causing floods that destroy human lives, crops, roads, and people's houses. Cambodia's forests cover about 11.2 million hectares, about 62 percent of the country's total land area, and are an important source of timber for domestic use and export (Hong, 1997).

The forest sector is a source of employment, particularly harvesting and processing operations, and provides various non-timber products such as wildlife, fuel wood and medicinal plants. Wood is the principal source of fuel and fuel wood accounts for the largest use of wood harvested. Most fuel wood is collected by rural people in accessible forest areas. Out of a total of 6 million cubic meters of fuel wood extracted annually, about half come from forests.[28]

Though measures have been taken by the government aimed at sustaining the forest, problems still remain. Procedures to award forest concessions are not transparent and contracts are approved without detailed surveys of concession areas. Despite the efforts

[26] International Rice Research Institute, "Distribution of rice crop area, by environment" (2001 data). Online at http://www.irri.org/science/ricestat/pdfs/Table%2030.pdf (March 2003).
[27] International Rice Research Institute, "Rough rice yield, by country" (2001 data). Online at: http://www.irri.org/science/ricestat/pdfs/Table%2003-feb.pdf (March 2003).
[28] Cambodia National Environmental Action Plan 1998-2002 (January 1998).

of law enforcement agencies, significant quantities of logs have been illegally exported. Due to weak institutional capacity and security concerns, the Forest Department has had limited ability to monitor concessions and enforce regulations, particularly in areas controlled by former Khmer Rouge (such as Anlong Veng, a town in Oddar Meanchey Province). Forest areas have been lost due to illegal land reclamation (RGC, 1998).

2) Fishing and Flood Plain Agriculture in the Tonle Sap Region

The Tonle Sap Lake, or Great Lake, has a unique hydrology. It is a natural flood retention basin regulating flood water from the Mekong River. About three million people in six provinces depend on this great lake and its floodplain for their livelihoods, including fishing and agriculture.

With its rich biodiversity, the Tonle Sap ecosystem plays an important role in the economic, social, and cultural life of Cambodians. The lake yields about 230,000 tons of fish annually (ADB, 2002). Three types of fishing operations are practiced: industrial, artisanal (medium-scale), and family fishing. Although the government has adopted a fisheries law, there are still concerns that over-fishing could occur because of the growing deficit between the supply and demand for fish, caused by a rapidly growing population. There is not enough reliable information on the status of fisheries, needed to guide planning and implementation. The size of inundated forests has been reduced through fuel wood harvesting and converting land to agricultural use, and this has reduced the number of fish in the lake. Cambodian farmers have used agrochemicals to improve crop yields, and this could harm the environment because of the damage to soils.

Another concern is that the Tonle Sap has become shallower due to increased sedimentation (JICA, 2002). A shallower Tonle Sap would cause floods because the lake would not be able to store water flowing from the Mekong River and elsewhere (flood flows from the Mekong River account for about 62 percent of the volume of water in the lake and the remaining 38 percent comes from watersheds associated with the lake).

3) Coastal Fisheries

Cambodia's coastal zone supports diverse habitats and species significant to biodiversity, including mangrove forests, coral reefs, and seagrass beds. Presently, overexploitation of mangroves in Cambodia appears to be localized, but this could become a major problem in coastal areas if action is not taken. Harvesting of mangrove forests for charcoal is one of the major causes of degradation. About 100,000 tons of mangrove trees were reportedly harvested in 1992 to produce 24,000 tons of charcoal, 90 percent of which was exported to Thailand and other Southeast Asian countries (RGC, 1998). Mangrove areas are also under threat from the brackish water of shrimp aquaculture. Other habitats critical to marine fisheries that could be threatened by human activities include coral reefs and seagrass beds, where the main threat is offshore oil and gas development. Contaminants associated with the oil and gas industry include oil spills; sanitary and domestic waste from drilling activities; and wastewater from production that contains heavy metals, elemental sulfur and sulfides, and organic compounds.

4) Degradation of Inundated Forest

Another concern is the degradation of inundated forest in the Tonle Sap's floodplain and wetland areas. The degradation of inundated forest and watersheds associated with the lake appears to be a major problem. Deforestation, mainly due to harvesting of trees for firewood or charcoal, has reportedly reduced the inundated forest in the Tonle Sap area from 1 million hectares in the 1960s to 614,000 hectares by 1992 (RGC, 1998). Also, this degradation of forest in the floodplain and wetlands has caused soil erosion and a decline in species diversity and fish populations, as the floodplain is an important spawning, nursery, and/or feeding ground for several fish species. The largest consumers of inundated forest are the cottage industries, mostly brick manufacturing and fish smoking. A second major cause of decline in inundated forests is the reclamation of forest areas for the cultivation of rice, mung beans, and other crops.

5) Urban Waste Management

The increasing waste in cities and urban areas damages their beauty, causes dirtiness and disease, and pollutes the air. Major cities in Cambodia have been experiencing a rapid increase in the volume of solid waste (mainly organic matter from residential, construction, and commercial sources) and special waste (toxic waste from small- and large-scale industries, and from hospital and pharmaceutical facilities) since the civil war ended in 1991. The disposal of wastewater, including sewage, is another emerging problem.

The drainage systems in Phnom Penh and other cities suffer various problems. Many pipes are dysfunctional because of lack of maintenance. Others are clogged because of illegally or randomly dumped garbage and infrequent removal of silt. In addition, many of the six pumping stations in Phnom Penh operate irregularly because of aging equipment, lack of spare parts, and an unreliable supply of electricity. The breakdown of the drainage system has increased the risk of flooding during the rainy season and overflows of wastewater into adjacent residential areas.

In Phnom Penh, there is only one garbage dump built on 7 hectares of land outside the city. Environmentalists have said it is not enough to hold around the approximately 2,000 tons a day currently being generated. One of the major risks associated with open dumps is the spread of disease pathogens and chemical contaminants. These dumps are accessible to waste pickers and domestic animals that feed on garbage and can spread disease pathogens and chemical contaminants to humans through the food chain. A second public health problem is air quality near the open dumps, which is adversely affected by burning and/or biodegradation of waste. People working or living close to the dumps, mostly the poor, are more susceptible to respiratory illness because of smoke generated from burning waste. In addition, gases associated with biodegradation within an open dump include benzene and vinyl chloride, both of which may be carcinogenic. Further, soils and surface and groundwater can be contaminated by seepage and microorganisms from the dumping site.

The Mekong River Commission: Transboundary Issues

The Mekong River Commission (MRC) has conducted studies to measure environmental problems along the Mekong. The most pressing issues are: 1) flood; 2) drought and damage from brine in the delta; and 3) large flow fluctuations between wet and dry seasons, which cause large differences in water level and a deterioration of water quality during parts of the year (Stensholt, 1997). Still, the greatest problem is that the governments of the region's countries have not yet adopted the environmental measures necessary as their economies develop. River pollution already exists, and will probably be aggravated as industrialization proceeds in different areas unless preventative measures are taken.

Yet the most critical regional issue that requires immediate attention is the "downstream effect" of upstream developments on ecosystems in downstream countries. Cambodia has been a victim of the irregular flows caused by Vietnam's Se San and Yali Falls Dams. According to studies conducted by Oxfam America, the Se San and Yali Falls Dams have contributed to the irregular flow that ultimately affects the livelihood of downstream communities in Cambodia's Rattanakiri and Stung Treng Provinces. The studies found that the economic impact on Rattanakiri alone was severe. Based upon the total land flooded, approximately 1,500kg of unmilled rice and 10,048,800kg of unmilled paddy rice were lost. At a value of 500 riel/kg, the total value of such a loss would be over four billion riel, or US$1,281,735, which represents a significant loss of capital for the local people. Other assets lost included livestock and vegetables (Baird et al., 2002).[29]

Another risk is China's plans to build dams — to help alleviate its energy shortage — at 14 different points on the upper reaches of the Mekong River in Yunnan Province. The dams are meant to control the flooding that creates havoc downstream, but could also have wide-ranging affects on the river's ecology and numerous fisheries. In this region, the basin is susceptible to meteorological changes, causing the snow line to fluctuate in the high mountains. Furthermore, human activities are reducing the basin's forest cover, which leaves open the possibility that the soil located around the river's source will gradually lose its water retention capacity. Another major concern is that the effluent flowing into the Mekong mainstream will become a serious pollution problem.

Developments in the Policy and Institutional Setting

Cambodia's Environmental Policy Framework

The overall objectives of the Ministry of Environment are to effectively manage, conserve, and protect Cambodia's environment and natural resources in an ecologically sustainable manner that will assist in alleviating poverty throughout the nation. The medium-term objectives are to: 1) develop coastal zone management; 2) reduce urban and industrial pollution; 3) strengthen protected areas management; 4) enhance forest concession management; 5) improve management of the Tonle Sap ecosystem; and 6) build the environmental planning capacity of core institutions (RGC, 1998).

[29] The study also notes the direct loss of human life.

Efforts in environmental protection and natural resources management have been made based on four principles: 1) the recognition of the link between poverty alleviation and the environment; 2) the recognition of the importance of communities; 3) the recognition of the need for institutional capacity building; and 4) the recognition of the importance of an integrated approach to environmental planning (RGC, 1998).

Environmental issues are cross-sectoral and different institutions have responsibilities and undertake activities that affect the environment. There is a need for monitoring the implementation of all public investment projects to ensure that their implementation is environmentally sound, and to strengthen the links between development planning and environmental protection. There is also a need to incorporate environmental impact assessments (EIA) and compliance procedures in new project screening procedures.

The Mekong River Commission: Relevant Developments

There are more than 60 million people living in the Lower Mekong Basin. Rural residents of the Mekong countries are among the poorest in the world, and three-quarters of Lower Basin residents are farmers and fishermen whose lives and livelihoods depend on the river basin and its natural resources. To promote economic growth and environmental sustainability across the borders of countries in the Lower Mekong Basin, Cambodia, Laos, Thailand, and Vietnam will collaborate on a regional development plan, the first projects of which will be established in irrigation; watershed management and fisheries; hydropower; navigation and transportation; water-related tourism; water supply to homes and industry; and flood management.[30] The initial stage of the plan will take three years and cost $6.16 million, and will be funded by the governments of Australia, Denmark, Japan, Sweden, and Switzerland. In November, the Mekong River Commission received a $2 million grant from Denmark to support the launch and initial implementation its new five-year Environment Programme. “Although the four MRC countries all have environment programs, there are as yet no well-developed mechanisms to monitor the impact of development across national borders,” according to Joern Kristensen.[31]

Contribution to Regional Environment Management

After the 1993 National Elections, Cambodia was integrated into the international and regional community. In 1995, Cambodia become a member of the Mekong River Commission *(see Table 1)*, and in 1999 became a member of the Association of Southeast Asian Nations (ASEAN). As a Developing Member Country (DMC), Cambodia has passed the following legislation with global or regional implications (RGC, 1997):

- Law on the Adoption of the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl;
- Law on Adoption of the United Nations Framework Convention on Climate Change;
- Law on Environmental Protection and Natural Resources Management;

[30] *Cambodia Daily*, Saturday and Sunday, February 16-17, 2002.
[31] *Cambodia Daily*, Tuesday, November 27, 2001. Joern Kristensen is chief executive officer of the MRC.

- Sub-Decree on the Establishment of the National Committee for Development and Implementation of Forestry Policy; and
- Sub-decree on the Establishment of the Inter-Ministerial Technical Commission for Oil Exploration and Exploitation.

These legal instruments have been incorporated into Cambodia's own legislative framework. In 1996, Cambodia enacted the Law on Environmental Protection and Natural Resource Management, a precedent that led to the enactment of the National Environmental Action Plan (NEAP).

The approval of the NEAP by the Council of Ministers on December 4, 1997 affirmed the government's commitment to incorporate environmental concerns into its development decisions. As Cambodia moves into the implementation phase of the NEAP, it is encouraging to see that NEAP initiatives are becoming realities.

The NEAP provides a strategic framework for improving environmental management in some of the priority areas discussed above, namely forestry, fisheries and flood plain agriculture in the Tonle Sap region, coastal fisheries, biodiversity and protected areas, and urban waste management. It also covers energy development and the environment.

Five of these six priorities, with the exception of urban waste management, are aligned with the MRC's Sector Programmes. Hence, Cambodia's environmental programs are not limited to national interest, but rather key environmental issues, such as those listed above, have also been incorporated into local, regional, and international institutions and frameworks. Cambodia's own environmental framework and management will be integrated with the international community's. Thus, Cambodia's environmental management and cooperation has bilateral and multilateral implications, and is proactively driven at the national level. These common reference points are highlighted in Tables 2 and 3.

The difference between the NEAP and the MRC is that the MRC is institutionally driven in a regional framework, while the NEAP, though incorporating a domestic environmental framework into a regional agenda, is perhaps not as institutionally driven because of deficiencies in institutional capacity and resources. Nonetheless, there are many parallel programs and issues that require cross-institutional linkages between the MoE and the MRC.

The following are examples of overlapping components of the MoE and MRC. To better identify national environmental issues in the context of the region's environmental issues, it is helpful to screen shared environmental components between the MoE and MRC. The MRC's priority programs consist of its (1) core program; (2) support program; and (3) sector program, as detailed below:

Table 1: Organogram of the MRC

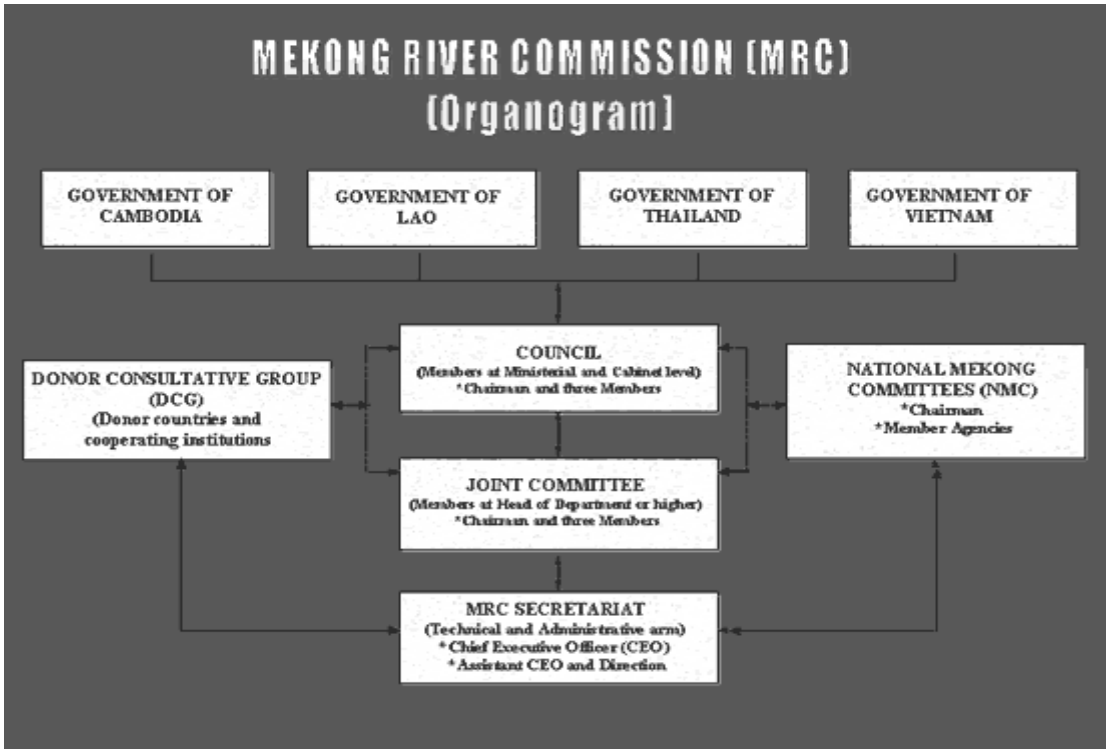

Table 2: MRC Programs

Programs	Component of programs	Environmental components	Regional Issues
Core Programmes	Develop rules, policies, and planning that are necessary for sustainable and equitable management and development of the Mekong Basin's resources	• Basin Development Plan; • Water Utilization Programme • Environment Programme	Institutional capacity and delivery; equitable management and transparency Democratic governance in regional resource management and basin development
Support Programmes	Capacity building	• Capacity Building Programme	Strengthen the administrative, management, and organizational systems, as well as the human resources of the MRC and the riparian governments
Sector Programmes	Focus on specific sectors and address regional issues that are significant to the management of the entire MRC. While the programs have a regional focus, they also complement and support initiatives at the national and bilateral levels	• Fisheries Programme • Agriculture, Irrigation, Forestry Programme • Navigation Programme • Tourism Programme • Flood Management Programme	Complement initiatives at the national and bilateral levels

Table 3: National Environmental Issues of the NEAP

Issue Areas	Planned Action and Forthcoming Challenges
Environmental Issues	• Flood management program • Water resource and hydrology program • Biodiversity and protected areas • Energy development and the environment • Urban waste management
Management Issues	• Governance and environmental sustainability: 1. independent legal experts review existing concession contracts to ensure sustainable management criteria 2. develop and implement regulation to review, monitor, and enforce management plans; 3. define assessment procedures for the sector; 4. invest in field capacity (training, infrastructure, mobility, communication) • Trade control on logging • Improve management of forest concessions: 1. coordinate all policy reform activities 2. prepare sectoral investment program 3. coordinate policy dialogue between the government and international donors
Policy and legal issues	• Weak institutional capacity • Staff mobility in this field is non-existent
Multi-layered Management	In phase II of the NEAP, developing and implementing a training strategy for the forest sector: • launch in-country and overseas training programs for the staff of the Forestry Department, and the Forestry Faculty of the Royal University of Agriculture • design and implement community-based forest management activities, including agroforestry and woodlots
Public involvement	Limited institutional capacity of government agencies, and local groups; the MoE consulted with other government institutions, NGOs, local communities, and international development community; only then, did the MoE decide to prioritize six key issues: • forest policy • fisheries and floodplain agriculture in the Tonle Sap region • coastal fisheries • biodiversity and protected areas • energy development and environment • urban waste

Trend	The MRC signed an agreement with China and Myanmar on data sharing; the Asian Development Bank (ADB) and ASEAN are continuing environmental project assessments with NGOs and national think tanks
Projections	The MRC and MoE will continue to improve and become more effective in environmental management; institutional capacity strengthening and program sharing will enhance compatibility between regional and national institutions

Source: Royal Kingdom of Cambodia, "National Environmental Action Plan 1998-2002" (Phnom Penh, Cambodia, 1999).

Participation in Regional Processes

As a member of the MRC, Cambodia has supported numerous regional environment initiatives. In a regional context, Cambodia's constructive engagement in the MRC's programs enables the MRC to voice the interests of riparians in Mekong River matters. While there are many international, regional, and national organizations working in the Mekong Basin, there is only one regional river commission, combining research, capacity building, development programs, and political dialogues at the highest level.

In terms of technical support, Cambodia is an active member of the Mekong River Commission and has been proactively supporting environmental conservation and sustainable development initiatives in some of the MRC's key technical programs and policies. For instance, Cambodia has contributed to: (1) Sustainability of the Mekong River Basin Ecosystems, which specifically protects the ecology of the Mekong River Basin System; (2) Co-operation of the Management of the Basin Resource; (3) Research Integration; (4) the Water Resource and Hydrology Programme; and (5) the Navigation Programme. The supporting initiatives link directly to the MoE, and include research and data gathering, surveys, impact assessment and policy dialogue, sharing of jurisdiction and legal framework through the MRC's Joint Committee.

Multilateral and Bilateral Cooperation

Cambodia's environmental framework is grounded in multilateral cooperation, in partnership with the World Bank (WB), International Monetary Fund (IMF), MRC, United Nations Development Programme (UNDP), Food and Agriculture Organization of the United Nations (FAO), NGOs, and ADB. The nature of these multilateral partnerships encompasses the technical and financial aspects of Cambodia's environmental policy, as well as capacity programs and consultations. For example, the NEAP environmental agenda is integrated into the MRC support and sectoral programs, while key national environmental issues, such as waste management, are being managed and financed by municipal and national authorities.

While the participation of local institutions in environmental protection is important, equally important has been the role of the ADB and its Greater Mekong Sub-region initiatives. The extent that the ADB has helped to strengthen a regional environmental framework merits attention.

The Asian Development Bank's Role in Environmental Sustainability

The ADB's role in environmental sustainability is to finance and provide technical support to environmental conservation programs. Moreover, the ADB consults with local organizations and NGOs on environmental policy, including specific areas such as analytical tools for environmental impact assessment (EIA) and assessment mechanisms, and funds research on environment-related activities and programs. The ADB assists government institutions in capacity building and implementing environmental objectives. It aims to promote environmental awareness in government institutions, while at the same time improving the capacity of local institutions to manage the environment.[32] The ADB also assists regional institutions, such as ASEAN and the MRC, primarily through financing the human resource development programs of the Mekong River Commission, as listed in Table 2 (Kao and Sisowath, 2001). In an environmental context, the ADB's function has been to influence local environmental practices via policy dialogue and environmental information. Identifying the level of the ADB's influence would require a separate study.

The ADB supports publications and conducts research on environmental issues, such as in its Environmental Policy Framework. The ADB's interest in environmental research has been to address environmental governance in relation to the politics of natural resources. Instead of concentrating on detailed technical issues, the ADB stresses poverty and environmental sustainability. It also expects local governments to incorporate an environmental agenda into national development plans.[33]

The ADB engages indirectly in environmental adjudication. It provides a legal process for filing complaints against ADB-sponsored projects for people whose livelihoods have been adversely affected due to its own negligence. However, it should be noted that the ADB does not take responsibility for member governments' environmental abuses.[34] While the ADB does engage in environmental programs, it does not have the required jurisdiction to enforce environmental policy. However, there is evidence that the ADB does have the influence to incorporate its environmental prescriptions into national environmental frameworks.

With regard to environmental governance, from an institutional policy point of view the ADB has played a significant role in supporting environmental sustainability. In terms of institutional practice, however, the ADB is weak due to the fact that it has neither enforcement capacity nor the power to prescribe enforcement. However, it can mitigate environmental abuses by setting strict conditions on loans and providing sound policy information for environmental management. Thus, in the context of environmental

[32] See the Cambodian National Environment Action Plan (NEAP). The Asian Development Bank (ADB) and the World Bank were consulted extensively in the drafting process for the NEAP. As such, there is evidence that the ADB and the World Bank have been involved in the legislative process of developing Cambodia's environmental framework, but not to the extent that they are able to enforce the implementation of environmental policy. They simply do not have the jurisdiction to carry out such mandate.

[33] Please see also Cambodia's Socio-Economic Development Plan I/II.

[34] Asian Development Bank Workshop on "Complaint Procedural", Phnom Penh, Cambodia, 2000.

governance, ADB has been perhaps the best liaison between the private sector and local authorities. The extent to which the ADB is accepting responsibility and engaging in environmental protection and environmental sustainability merits a separate study (ADB, 2000).

Nonetheless, it suffices to point out that the ADB does have its own framework for supporting environmental governance, or perhaps environmental sustainability. The framework has three tiers: 1) legal; 2) technical; and 3) financial. All tiers are embedded in ADB loan conditions and policy.

Best Practices and Prospects

Domestically, best practice in environmental sustainability means continuing to educate people about environmental sustainability and the significance of environmental impacts on their livelihoods.

Building institutional capacity requires continuous human resource training. Enforcement is the crux of environmental sustainability. Without enforcement, it would be extremely challenging to maintain a healthy ecological system. Since Cambodia already has a regulatory framework, institutional cooperation and setting, and consultative and participatory processes, what are needed are the monitoring, legal enforcement, and political commitment to protect the ecosystem.

The burden of regional ecological sustainability rests on the political decisions and legal culture of the MRC. The MRC's political decisions have not unequivocally addressed environmental impacts, and its political commitment has been inconsistent. In the case of the Se San and Yali Falls, the MRC has not been able to address the issues of downstream flooding, as downstream inhabitants have suffered flood damages. National institutions have been cooperating in sharing data, financial resources, human resources, and jurisdiction. On the other hand, it is encouraging that the local institutions and the MRC are sharing environment and development programs and that the communication process between regional interests and national interests has been a bottom up process, implying that the MRC is not a monolithic institution.

Most Promising Positive Developments

The most promising development for environmental management in Cambodia has been the strengthening of capacity in environmental monitoring and enforcement. The Royal Government of Cambodia has been able to curb deforestation, while at the same time beginning a reforestation program — a program has been in place in Siem Reap Province since 1998. But the most notable improvement in environmental management has been progress in urban waste management, with waste treatment facilities built in Sihanoukville, Siem Reap, and Phnom Penh, along with tighter regulations and control on industrial waste management.

Realistic enforcement of environmental violations is another promising positive development for environmental sustainability. Improving agricultural development would

alleviate deforestation by supplementing revenue. Privatization and forestry concessions require serious adjustments, as does the practice of logging. Fisheries have seriously upset ecosystems in Cambodia. This problem has been addressed in the Royal Government of Cambodia's Poverty Reduction Strategy Paper (PRSP) and Governance Action Plan (GAP).

The MRC is continuing to engage in high level dialogue with Myanmar and China, and has just recently signed an agreement with China on sharing scientific data on the upper Mekong River Basin. Capacity building continues to earn donors' confidence in its research and results. Yet the policy of cooperation, and the issues of transboundary environmental challenges, governance in practice, institutional pluralism, and regional governance must be realistic. The MRC must be realistic in its ability to deliver on long-term environmental sustainability and democratic governance, which requires that the decision-making process must go beyond the Joint Committee.

In short, best practices in environmental management in Cambodia are institutional accountability, transparency, and institutional democratic governance. Improving research and development is equally important, while political commitment is imperative. In the end, development should focus on the sustainability of people's livelihoods. A cause of concern might be the impact of commercial development on the Mekong Basin. However, since there is practically no legal framework for resolving disputes, it would be difficult to determine the implications of transparency and accountability on environmental management.

Public Involvement and Sustainable Livelihoods

Public involvement is a best practice in ecological sustainability, as environmental degradation affects people's livelihoods directly, particularly rural people. The Se San and Yali Falls scenarios show government negligence in managing for downstream impacts. Whether the release of water from the Se San and Yali Fall reservoirs was perpetuated by design or operational flaw, it was the poor who suffered. The loss of life and livelihood went uncompensated.

Unfortunately, besides NGO participation there appears to be very little participation by the public in environmental issues at the policy level. Groups such as the Se San Protection Network Project, Partners for Development (PFD), Se San District Agriculture, and the Fisheries and Forestry Office have not been able to effectively lobby the government to implement concrete measures to remedy the downstream consequences of the Se San and Yali Falls Dams.

The media, as mentioned earlier, has failed to adequately inform the public on environmental issues. The National Assembly has enacted environmental policy, namely the 1997 National Environmental Action Plan, but has failed to follow up on its implementation and enforce policy in the face of environmental violations. In other words, the MoE has not been able to provide progress reports on the NEAP. The absence of monitoring processes or programs may exacerbate environmental problems. There has been little evidence of environmental activism or academic research on environmental

management. Cambodia's environmental issues have been frequently raised and addressed by international agencies, such as the ADB, World Wildlife Fund (WWF), United Nations Educational, Scientific and Cultural Organization (UNESCO), UNDP, WB, IMF, and international donors.

Fundamentally, it is important that the public is able to participate in environmental issues, especially the rural public. People formerly living in the Tonle Sap Basin and in Rattanakiri, near Vietnam, were victimized by procedural negligence that resulted in their displacement. In Rattanakiri, an entire village was displaced when the Vietnamese opened their dams without duly warning the local authorities. The exact cost of property and environmental damage has been undetermined as both governments have brushed the issue aside (Baird et al., 2002).

The main issues in the Tonle Sap region have been illegal fishing, conflict between commercial fishermen, and indigenous peoples. Concessions to commercial fishing groups prevent local people's access to commercial fishing zones. As a result, the indigenous locals have been unable sustain their livelihoods from fisheries (Baird et al., 2002).

Priority Areas for the Next Five Years

Cambodia's environmental priorities will continue to focus on human resource development, enforcement, and improving the institutional linkages between local authorities and the MoE on environmental protection. Within this focus, special attention will be given to biodiversity and protected areas and energy development. As the development of some of Cambodia's energy potential could negatively affect its archaeological and cultural assets, agricultural lands, and sensitive ecosystems, the government is preparing a national energy policy to address demand and supply, and environmental and social issues.

Lessons Learned and Recommendations

Lessons Learned

- The region's environmental issues stem from national challenges in environmental management. These challenges include capacity, finance, legal framework, political decisions, monitoring, enforcement, democratic governance, pluralism in the decision-making process, commitment, and lack of attention to the environment.

Recommendations

- People must continue to learn about the impact of environmental degradation and environmental management, which affect their livelihoods;
- Governments can improve access to justice in environmental matters;
- To improve environmental impact assessment, regional governments can apply EIA comprehensively, not just in infrastructure projects but also in activities such as the designation of protected areas;

- Private corporations and project developers can be held to a high standard of information disclosure and public consultation to support public participation in the EIA process;
- Governments can strengthen environmental laws and regulations to clarify institutional mandates and procedures;
- Governments can provide alternative dispute resolution mechanisms.

In sum, the prospects of achieving environmental sustainability and enhancing environmental management rest not only on creative policy planning but also require realistic objectives and political commitment to carry out enforcement.

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A Perspective on China's Yunnan Province

Zuo Ting

General Environmental Situation

China has experienced dramatic social, political, and economic changes during the past 50 years, particularly in the past 20 years. Extensive development has caused various kinds of resource depletion and environmental pollution. Yunnan is a mountainous, ethnic minority-inhabited, poverty-stricken, border province of China. China's border stretches 4,060 kilometers into Yunnan Province, where 8 prefectures border on Myanmar, Laos, and Vietnam, and where 13 ethnic groups reside, both in China and in neighboring countries. About 94 percent of the province is mountainous. The Jinsha (the Yangtze), Lancang (the Mekong), Yuan (the Red), and Nu (the Salween) rivers flow through the province. The whole province is environmentally sensitive.

As a poor province, Yunnan has pushed to catch up with China's developed coastal provinces. As a mountainous province, Yunnan should carefully select its development model. Beginning in 1992, Yunnan has had three stages where sustainable development has been gradually proposed. In the summer of 1992, the First Kunming International Trade Fair was held, which was a signal of Yunnan's further opening up, particularly toward neighboring Southeast Asian countries. In 1994, tourism became popular in Yunnan, with many tourists coming from Thailand and Singapore because of direct flight links. At the end of the 1990s, environmental issues became a focal point in Yunnan. Polluting enterprises were closed in 1996 and a national logging ban was promulgated after the Yangtze floods in 1997.

The key environmental concern in Yunnan (and to a large extent in China) is forest conservation. The fundamental role of forests in Yunnan has shifted from timber production before 1980, to both timber production and ecological conservation in the 1980s and most of the 1990s, to ecological conservation after 1997. The main conservation-centered policies are the ongoing Natural Forest Protection Program and Upland Conversion Program.

Yunnan's Provincial 10th Five-Year Plan for Environmental Protection concentrates on reforestation, watershed management, prevention and control of soil erosion, and the establishment of nature reserves in six key watershed systems and in karst areas. There are some significant parts of this plan that differ from previous plans. First, rural environmental protection is listed as one of eight main tasks, which also include: speeding up eco-agriculture development, readjusting the structure of rural energy, controlling agricultural pollution, promoting the structural adjustment of township village enterprises (TVEs), and strengthening environmental protection in small towns. This focus shows the expansion of Yunnan's environmental protection system to include its rural population. It is expected that, in the future, the environmental protection system will have more interaction with rural people. Additionally, public involvement and

participation have been proposed as policy measures for strengthening environmental protection. These measures have shown good promise for environment management.

Developments in the Policy and Institutional Setting

The Constitution of the People's Republic of China is the foundation and the Environmental Protection Law (EPL) of the People's Republic of China is the main body of the legal system for environmental management in China. The Constitution stipulates that, "The state protects and improves the living environment and the ecological environment, and prevents and remedies pollution and other public hazards," and "The state ensures the rational use of natural resources and protects rare animals and plants. The appropriation or damage of natural resources by any organization or individual by whatever means is prohibited." The Environmental Protection Law has established the basic principles for coordinated development among economic development, social progress, and environmental protection, and has defined the rights and duties of all levels of government, all organizations, and all individuals with regards to environmental protection. China also has enacted and promulgated many special laws on environmental protection, as well as laws on natural resources related to environmental protection. On October 29, 2002, the People's Congress promulgated the Environmental Impact Assessment Law of the People's Republic of China.

Management of environmental issues in China and Yunnan is relevant not only to the Environmental Protection Bureaus (EPBs) at various levels, which are designed as the legal enforcers of the EPL, but also to many natural resource management agencies, such as forestry, land, and water agencies. At the prefecture level, there are 14 EPBs in 16 prefectures. At the county level there are 49 independent EPBs in 127 counties. Prefecture and county EPBs are smaller, but their functions are quite similar. The Yunnan Environmental Protection Bureau includes nine functional divisions, whose functions are as follows:

- Administrative Office: Assist leaders by providing such services as coordination, supervision, and examination; also responsible for some logistics.
- Policy and Statute Division: Investigate, research, and formulate statutes, policies, and regulations for environmental protection; responsible for supervising the execution of environmental protection law in Yunnan Province.
- Integrated Planning and Financial Affairs Division: Compile the medium or long-term plan for environmental protection in Yunnan Province, supervise and examine financial implementation, and develop the budget for provincial environmental protection infrastructure, facilities, and equipment; produce environmental statistics, collect environmental information, and appropriate funds for the Bureau and attached units.
- Development and Pollution Control Division: Formulate the local statutes of pollution control policy.
- Nature Protection Division: Responsible for provincial nature reserve protection and the control of pollution caused by countryside and township enterprises.
- Science and Education Standard Division: Implement policies for environmental protection research and education.

- Personnel Division: Implement personnel policies and statutes.
- International Cooperation and Project Management Division: Responsible for international cooperation in environmental protection and the management of cooperative projects.
- Supervision and Management Division: supervise the implementation of environmental policies and regulations.

In addition to governmental bodies, there are also many other institutions and enterprises that sometimes have public management functions, such as the Yunnan Environmental Monitoring Central Station, Environment Supervision and Management Station, Yunnan Environmental Science Institute, Radioactivity Supervision and Management Institute, and Rare and Endangered Plant Introduction and Propagation Center.

The Departments of Forestry, Water Resources, Agriculture, and Land Resources in Yunnan also play critical roles in environmental management.

- The Department of Forestry has the relevant duties of: Forest conservation, afforestation, biodiversity and wildlife management, and forest-type natural resource management;
- The Department of Water Resources has the relevant duties of: Soil erosion control, groundwater quality monitoring, and watershed management;
- The Department of Agriculture has the relevant duties of: Management of agricultural chemicals, aquatic-type natural reserve management, agro-biodiversity conservation, and grassland management;
- The Department of Land Resources has the relevant duties of: Land use planning, mineral resource management, and land rehabilitation.

In general, environmental protection agencies in China are new and relatively small, compared with natural resource administration agencies. At the township level, there is no representative for environmental protection.

Because of economic reform and development, the policy and institutional landscape related to the environment and natural resources is also changing accordingly. Overall, the legal and policy framework is still top-down and centralized, which means the key policymaking and relevant implementation resources are still controlled by the central government. However, the general trends of reform related to environmental governance, including decentralization and transparency reforms, are also obvious.

The key institutional changes are:

- State and Government Reform: State and government reform includes developing the rule of law, separation of party and government and government and state-owned enterprises, establishment of specialized agencies, and downsizing of government at various levels.
- Ethnic Regional Autonomy and Self-Organization: The Autonomous Law of National Minority Areas was promulgated in 1984 and revised in 2000, and many of the autonomous governments (in prefectures and counties) were established in the 1980s. The autonomous governments have more rights in legislation and

administration. In the late 1990s, the direct election of village committees was organized to encourage village communities to be more responsible in their affairs.

- Finance and Taxation: The independent financial management and budget of each level of government was established. Under the Fiscal Responsibility System, introduced in 1980, each level of government became financially independent, responsible for creating its own budgets and managing its own revenues. However, the tax structure also ensured that the majority of revenues would accrue to upper levels of government, leaving insufficient monies at the township level to carry out their development mandates.
- Reform of Planning Approaches and Progresses: Bottom-up programming and planning processes have been adopted in many projects. Participatory methods are utilized, and integrated approaches have been adopted. Public hearings have been adopted in decision-making processes regarding issues of public service and property.
- Creation of Market and Civil Societies: Market and social actors have been created because of market-oriented economic reform and a pluralization of China's social structure. Principles of market economics have been popularly accepted. Public societies have been started, involved in social affairs (e.g., education, health care, insurance, service, and pricing of public service). Public media has played an increasing role in social affairs (e.g., for monitoring and transparency).
- Strengthening Independent Environmental Impact Assessment (EIAs): Although EIAs have been adopted in China for a quite a long time, they seemed to be "soft" in dealing with practical issues when "development is an overwhelming task."

Contribution to Regional Environmental Management

At the end of the 1970s, China adopted a reform and opening up policy. Yunnan neighbors with Vietnam, Laos, and Myanmar. Yunnan is considered as one of the bridges into Southeast Asia and South Asia. Recently, the Yunnan Provincial Government devised its three key strategic development objectives; the third is to become the Great Corridor of China to Southeast Asia and South Asia in 2000, as part of China's Western Development Strategy. The other two strategic objectives are: becoming a Strong Green Economic Province and a Great Cultural Province.

At the national level, most regional cooperation is arranged under a framework of "ASEAN plus China." This framework is oriented toward economic cooperation. In 2002, China and ASEAN decided to start negotiations on free trade.

The Kunming International Trade Fair has been held in Yunnan since 1992. The Kunming International Trade Fair is a formal trade institution co-organized by the six provinces in Southwest China to spur trade with Southeast Asia.

In 1992, a program called the "Great Mekong Sub-Regional Cooperation (Lancang-Mekong River Sub-Regional Economic Cooperation) (GMS)," sponsored and supported by the Asian Development Bank (ADB), was launched. Yunnan has become a part of this large-scale project, as several engineering works in the province have been included in

the list of GMS projects. At the ADB's 2002 Annual Meeting in Shanghai, Chinese Premier Zhu Rongji promised, on behalf of the central government, to further support Yunnan Province in expanding its cooperation with Southeast Asian countries.

Because of the importance of the Lancangjiang-Mekong watershed, Yunnan has placed a priority on the development and management of the watershed, and on international cooperation with other Mekong countries. Yunnan is actively participating in GMS cooperation on environmental management. In addition to Mekong watershed management, Yunnan is also interested in the cooperative use of other rivers, such as the Red and Salween Rivers.

Strengthening regional transportation is a focal area both under the GMS framework and in China/Yunnan. In addition to the GMS-sponsored road system construction, China, together with Laos, Myanmar, and Thailand, has forged an agreement on Mekong navigation. It was the first international agreement in which China has been involved regarding the Mekong River.

Some of the bilateral agreements have specific stipulations on transboundary environmental issues. The Border Contract of the People's Republic of China and Lao PDR (Beijing, Dec. 3, 1993) specified that governments of both sides will cooperate to protect forests in the border area.

The Yunnan Provincial Government also encourages local governments (at prefecture and county levels) to cooperate with the governments of neighboring countries, such as a joint assessment of acid precipitation in the Red Valley, a joint inventory of biodiversity in border areas of the Mekong watershed, cooperative forest management, and farmer-to-farmer exchanges. However, there are still many transboundary environmental issues, including transboundary forest product trade.

Generally speaking, in a poverty-stricken province, in many people's minds development seems to be more important than the environment. As an upstream and upland province, Yunnan's government and people are not really concerned with the environmental impacts on downstream and lowland areas, particularly when many internal problems exist. Nonetheless, the national "Forest Ecological Benefit Compensation Fund" and "Natural Forest Protection Program" have begun to solve environmental issues on a large watershed scale.

Future prospects and priority areas

Needs of Institutional Reform

Although many efforts have been made at institutional reform in Yunnan and China, there are still policy and institutional issues that need more consideration and solutions:

- Local Adaptability and Flexibility: China and Yunnan have large and diverse areas. How can uniform national policies be better adapted to different local situations? How will decentralization and community participation be combined in local political and social contexts (e.g., through village self-organization, minority

autonomy)? How can national policies be more flexible to local officials while maintaining the real objectives of policies?

- Functional Division of Government at Different Levels and Multi-agency Cooperation: China has many levels of vertical administration. Different levels of government should have different functions. The subsidiarity principle of governance is seldom recognized. What are the optimal functions for each level of government in dealing with transboundary environmental issues? Particularly, Yunnan does not have sufficient diplomatic power as a province of China to negotiate with its international neighbors.
- Accountability, Representation, Participation, and Public Involvement: How can local administrators (policy implementers) be more accountable to citizens while they are responsible for national laws, regulations, and policies? How can the voices of local people be institutionally included in sectoral policymaking? There is no institutionalized arrangement for public participation. The broader participation of civil society is still very limited, although there are more and more environmental NGOs emerging.
- Organizational Issues: EPBs are small compared to the environmental problems they face. Of the actors involved, environmental protection agencies have many advantages because of their position as implementing organizations. They also have constraints for legal implementation. As an implementing bureau, they are only a small organization, without grassroots offices at the township level.
- There is an institutional lack of capacity at the provincial level to deal with regional environmental management.

Priority Levels and Capacity Building

China is a centralized country. Diplomatic issues, including regional environmental issues, should be dealt with by the central government. In 2000, Yunnan had a new strategy, which is recognized by the central government, to build Yunnan as a national bridge linking China to Southeast Asia and South Asia. Yunnan Province will have more freedom and power in the GMS framework. Yunnan Province has more interest in regional cooperation than the central government and other provinces.

Many cases have also shown that local governments in the border area have numerous opportunities for cooperation in transboundary environmental mangement. In the border area, people (even people living in different countries) have common issues and interests. Local-level environmental management challenges cannot (and maybe should not) always wait for national institutions to take care of them. Local government and people should be encouraged to manage their environments. Greater China's interests are not necessarily Yunnan's interests. The reverse is also true —Yunnan's interests may not be a high priority for the central government. Yunnan's increasing economic integration and commercial ties with other countries of Southeast Asia seems to be key in defining how much freedom the provincial government is granted. It would seem that there is much potential for local-level collaboration on environmental governance challenges. At one level, the GMS Program (in which both China and Yunnan can play roles) provides the potential and approach for increased exchange and cooperation of researchers and decision-makers between Yunnan and the other countries of the GMS.

To meet the challenges of environmental management, the following capacities of the government and the environmental system need to be strengthened:

- Develop a strategic institutional framework for environmentally sustainable development at the provincial level, which includes regional environmental concerns.
- Enhance government capacity to analyze environment-related social issues at the provincial and prefecture levels during the preparation and implementation of provincial economic and social development plans.
- Strengthen biodiversity conservation at the provincial, prefecture, and county levels; promote the construction of key national and provincial nature reserves; enhance capacity among agencies for wildlife protection, including raising awareness about wildlife trade, improving techniques, CITES instruction, and monitoring and seizure.
- Develop a coordinated strategy at the regional level to address such issues as cross-border trade and the spread of transmitted diseases.

Needs and Priorities of Policy Studies of Environmental Management in the Future

There are a number of national environmental programs implemented in Yunnan, including the Upland Conversion Program and the Natural Forest Protection Program. The Forest Ecological Benefit Compensation Program has also been implemented in some provinces. As a mountainous and poverty-stricken province, a key challenge in Yunnan is how to combine environmental protection and economic development.

In terms of regional environment issues, Yunnan's provincial and local governments have many opportunities to cooperate with neighboring nations on the basis of shared culture, shared history, and shared economies, as well as shared ecosystems. The cases here have shown that there are many needs for neighboring countries in transboundary environmental management in this region. The main issues for transboundary environmental management are:

- Watershed management — watershed management does not simply mean water resource management, it also implies livelihood issues and broader natural resource management in the watershed;
- Illegal forest products trade;
- Forest fire, forest pest, and disease;
- Other illegal trade, such as smuggling, drug, and garbage;
- Information exchange, such as the inventory of transboundary elephants;
- Indigenous knowledge systems, in relation to environmental management;
- Trade in environmental benefits, such as carbon trade;
- Transregional payment schemes on environmental benefits and costs.

A Perspective on Laos

Chandavanh Dethrasavong

Introduction

Lao PDR is an elongated, landlocked country of 236,800 km^2, 88 percent of which is contained within the lower catchment of the Mekong River that traverses the country from north to south. Laos is sparsely populated — the estimated population in 1999 was 5.1 million people — and population density remains one of the lowest in Asia at 21 persons/km^2. Roughly 78 percent of the population lives in rural areas concentrated along the Mekong River and its tributaries. Geographically, the country is dominated by steep terrain, with hills and mountains covering two-thirds of its land area. Approximately 47 percent of Laos is forested. Only 20 percent of the country is considered potentially cultivatable. Approximately 35 percent of all water in the Mekong River originates from catchments within Laos — these catchments comprise 26 percent of the total catchment area of the Mekong River Basin (MRB). Significantly, river catchments in Laos provide around 60 percent of all water in the Lower Mekong Basin (LMB).

General Environmental Situation

Key environmental issues facing the Government of Laos (GOL) in managing natural resources are deforestation, land degradation, loss of biodiversity, water quantity and quality, and urbanization. These are briefly examined as follows:

- Deforestation as a result of over-utilization of forest resources continues to present the country's major natural environment challenge. A number of factors contribute to deforestation, including commercial logging, shifting cultivation, and, to a lesser extent, hydropower development. Improvements are being sought by the GOL to address concerns regarding commercial logging — perceived to be insufficiently regulated in the absence of enforceable forest management standards encompassing sustainable logging practices, allocation planning, controlling access, and biodiversity protection (TEI, 2001).
- Shifting cultivation in the uplands has been a major problem, resulting in land degradation (i.e., reductions in fallow periods have led to an increase in unproductive soil, erosion, and waterway sedimentation, and a gradual reduction in food production from cultivated areas). Management of upland areas has proven complex due to social conditions, culture, and livelihood issues, particularly with regard to ethnic groups that live in the country's uplands. Alternatives to intensified shifting agriculture are being sought by the GOL, including allocating stable agricultural land in upland areas and promoting alternative income generating options to reduce pressure from shifting cultivation.
- Biodiversity is closely linked to the state of forest management and land degradation resulting from unsustainable shifting agriculture practices. While Lao's forests are thought to support high biodiversity, there are fears that rapid deforestation is placing significant pressure on habitat essential to supporting high biodiversity. Exacerbating

the loss of biodiversity because of habitat depletion is the threat posed by indiscriminate and uncontrolled hunting and capture of a wide range of wildlife species (MRC, 1997).

- Laos possesses abundant water resources that far exceed present water use needs for irrigation, urban and rural water supply, and hydropower development. Although water withdrawals are projected to increase as development continues, no water demand conflicts are expected in the near future at the national level. Water shortages do, however, exist at the local level (TEI, 2001).
- Because Laos has a low population density and limited industry, the country is not faced with the same water quality problems (e.g., water quality degradation as a result of industrial and urban wastewater discharges) observed elsewhere in the MRB. Water quality in Laos is currently quite good and is not significantly affected by human activities. However localized degradation to some streams, rivers, and wetlands has occurred (e.g., soil erosion from land clearing leading to increased sedimentation, declining water quality in urban areas due to wastewater discharges). Notwithstanding the generally satisfactory existing water quality in Laos, the government recognizes that water pollution presents a threat that will grow with development.
- It is important to note that some gaps exist concerning information about the environment in Laos. Although the situation is improving as a result of substantive recent efforts, weaknesses remain in the country's information management systems. Effective mechanisms for information exchange have not yet been developed and, as a consequence, it is often difficult to identify and access existing information. Another challenge is the need to link research and management to ensure that research priorities match the needs of policymakers and environmental managers.

Economic, Environmental Policy, and Institutional Setting

Laos is ranked among the world's least developed countries (LDC), but has a promising outlook for future economic development due to its rich natural resources. Agricultural production represents the main source of national income, accounting for over 50 percent of the gross domestic product (GDP), employing over 75 percent of the labour force, and supplying 40 percent of the country's foreign exchange earnings (ADB, 1998). Industry and service sectors are still at an early stage of development, with the notable exception of hydropower, which is one of the country's main export sectors. Laos is at the threshold of expanding its GDP by means of diversification in development and expansion of infrastructure. The GOL has set a goal of lifting the country out of the ranks of the LDC by 2020 — priority is given to improving social conditions and creating incomes, particularly in rural areas.

Key natural resource sectors in Laos are agriculture, forestry, and hydropower. Agriculture is the main form of arable land use, comprising permanent agriculture by lowland people and shifting agriculture by upland people. Potentially cultivatable land is estimated at 5.9 million hectares, of which 800,000 hectares is presently cultivated for rice and secondary crops. Pasture compromises another 15 percent of the cultivatable land. An important trend in recent years has been a gradual decline in the availability of

land for shifting agriculture as a result of population growth, encroachment of lowland people, and loss of land to logging. These factors have placed increasing pressure on upland areas and have led to unsustainable shifting cultivation practices. Consequences of expanding and intensifying upland agriculture include land degradation, soil erosion and corresponding sedimentation of streams and rivers, and deforestation.

Forestry is a major contributor to Laos' economy, with forest products accounting for 42 percent of foreign exchange revenue in 1998. Forests are also recognized as being highly valuable from a non-monetary perspective, providing such benefits as modulating surface water run-off, minimizing soil erosion, regulating the hydraulic cycle in river catchments, and supporting rich ecosystem diversity in the form of habitat. Forest resources in Laos have been dramatically reduced in recent years — forest cover is estimated to have declined from 16 million hectares to 11.2 million hectares between 1970 and 1991 — as a result of shifting agriculture (slash and burn) and commercial logging. Notwithstanding the decline in forest cover, Laos' forests are considered to remain relatively healthy compared to other riparian countries in the MRB.

Because of its geographical location and climatic patterns, Laos has abundant freshwater resources. In terms of renewable freshwater, the country has the highest availability of water per capita in Asia, estimated at more than 66,000 m^3/person. Current domestic water use by households, industry, and for agricultural irrigation is low but is expected to increase considerably over the next few decades. Laos' mountainous terrain and high surface runoff combine to give the country a huge potential for hydropower development — an estimated 13,000 to 18,000 megawatts or 42 percent of the total MRB hydropower potential. To date this potential has remained largely untapped (less than 5 percent is currently utilized), but hydropower development is predicted to expand rapidly as the GOL seeks to earn foreign income. This outlook will play a significant role in determining the government's approach to water resources management.

Recognizing that natural resources are the foundation for economic development and poverty reduction prospects, the GOL places a high priority on environmental conservation and ensuring the environmental and social sustainability of all development activities. Improving environmental management and social performance has been a government priority, and the government has responded to recognized threats to environmental health by seeking improvements in environmental policies and management practices. In 1994, the GOL introduced the first National Environmental Action Plan (NEAP), which was intended to provide a basis for sustainable development and environmental protection. The NEAP was subsequently revised in 2000 to reflect emerging government policies for the protection of resources and new laws. The second NEAP examines the country's resource base and framework for socio-economic development, key environmental issues, the institutional framework, and agency capacity. It explores the present status and core issues in the various sectors (i.e., forest and other land resources, biodiversity, water resources, water supply and sanitation, industrial and mining development, and roads and transports). The NEAP recommends actions in each of these sectors for improving environmental management, including:

(i) adopting implementing decrees for resource legislation; (ii) seeking improvements in land management; (iii) identifying alternatives to shifting cultivation; (iv) designating additional wetland areas; (v) completing physical works to improve water supply and sanitation; (vi) augmenting regulatory activities; and (vii) putting in place measures for strengthening the institutional framework and line agency capacity.

Since 1990, a number of important laws and decrees have been passed to enable the GOL to implement policies on the use of natural resources including water, lands, forest, and the environment. These policies include:

- Environmental Protection Law (EPL) (1999), which requires protection of natural resources and socio-economic aspects in development.
- Prime Minister's Decree No. 68 (1998), which designates the Science, Technology and Environment Agency (STEA) as the agency responsible for oversight and coordination of environmental protection.
- Forest Law (1996), which categorizes forest lands and calls for reforestation, sustained yield, and catchment protection.
- Water and Water Resources Law (1996), which sets out the necessary principles, rules, and measures for the administration, use, and development of water and water resources; classifies catchment areas for various uses; and promotes protection and rehabilitation of forests, fishing, and the environment in general.
- Electricity Law (1997), which requires environmental assessments (EA) for hydropower dams and payment of compensation for damages to the environment.
- Road Law (1999), which mandates environmental protection during road building activities and requires compensation for rights-of-way, relocation or replacement of structures, and loss of property.
- Mining Law (1997), which requires developers to utilize procedures that limit adverse effects, control toxic substances, and preserve and restore disturbed lands.

Laos has also ratified several international agreements, including the Convention on Biological Diversity, Framework Convention on Climate Change, Convention to Combat Desertification, Protection of World Cultural and Natural Heritage, and the Mekong River Commission (MRC) Agreement. In addition to formal agreements entered into by the GOL, considerable informal collaboration occurs on an operational level with neighbouring countries and with donors that have ongoing programming in the Mekong region (e.g., the Asian Development Bank [ADB], Danish International Development Agency [Danida], and Swedish International Development Cooperation Agency [SIDA]).

Responsibility for formulating and implementing environmental policies and regulations rests primarily with STEA in the Prime Minister's Office. Day-to-day implementation of policies is accomplished through various line ministries and agencies, including:

- The Department of Forestry (DoF) within the Ministry of Agriculture and Forestry (MAF) deals with agriculture and forest issues, protected area management, catchment management, and livestock and fisheries.
- The Water Resources Coordination Committee (WRCC) is mandated to advise the government on matters relating to water and water resources, coordinate planning

and management, and coordinate the follow-up, inspection, and protection of water and water resources in a sustainable manner in line with government policy.
- The Ministry of Industry and Handicraft (MIH) is responsible for industrial pollution control.
- The State Planning Committee (SPC) is responsible for national socio-economic planning, while the Committee for Investment and International Cooperation (CIIC) is in charge of development project appraisal, approval, and monitoring.
- The Lao National Mekong Committee (LNMC), recently moved under the Prime Minister's Office, is tasked with coordinating linkages among national implementing agencies and with the MRC in dealing with basin-wide issues.
- Outside the civil service, mass organizations such as the Lao Women's Union, Lao Youth Union, and Lao Trade Union, as well as a number of non-government organizations (NGOs), are involved in the country's environmental issues, from the national to village level.

Achieving effective coordination among the various ministries and agencies involved in environmental management presents a major challenge for the GOL. Specifically, overlaps and gaps exist in the mandates of responsible parties and it is often not clear who is ultimately responsible or whether responsibility for particular tasks might be better allocated differently.

Environmental Protection and Management Highlights

Enactment of the EPL in particular represented a major breakthrough in environmental management in Laos. The EPL specifies the fundamental principles, rules, and measures for managing, monitoring, restoring, and protecting the environment in order to protect the public, natural resources, and diversity, and to ensure the sustainable socio-economic development of the country. Taken together with environmental provisions of laws concerning electricity, roads, land, water resources, and forests, the EPL provides a framework for implementing measures intended to protect the environment and promote social sustainability.

Another notable step forward made by the GOL has been its recognition that a national EA process is critical to ensuring that development is achieved in a sustainable fashion. Laos has only recently begun to comprehensively address environmental protection, including establishing a formal EA process. Specifically, the EPL provided that STEA should issue regulations on procedures and methods for environmental impact assessment (EIA). Such regulations were seen as critical to improve the existing ad hoc situation where development projects and activities may not have been subject to close scrutiny by STEA, and where EA was not done for some projects. Where EA was done, it often did not follow a consistent process (i.e., developments were generally subject to EA requirements of international funding agencies [IFA] such as the ADB, Japanese International Cooperation Agency [JICA], and World Bank).

Environmental assessment regulations were subsequently approved in October 2000. Passing of the new regulations formalized the EA process in Laos in order to ensure more

consistent scrutiny of all major development projects and activities that may not have previously been subject to assessment. The regulations provide for uniformity in the EA process and clearly set out the responsibilities of all parties in planning, constructing, operating and ultimately decommissioning projects (i.e., a cradle to grave approach). Lao's EA regulations are similar to those adopted in Thailand and Cambodia, but incorporate features that avoid problems experienced in these countries. Attention then shifted to implementation, including developing sector guidelines for the MIH (i.e., power development, industry, mining), Ministry of Communication, Transport, Post and Construction (urban planning, roads) and the MAF that are compatible with the EA regulations. These guidelines reinforce the EA process and are specific for the various sectors.

Protection of natural habitat and biodiversity has also been a GOL priority. Although Laos supports one of the most diverse areas of biodiversity in the MRB, there is an increasing loss of forest habitat, encroachment of wetlands, hunting pressure by local people, and concerns about increasing cross-border poaching. New and improved roads through previously inaccessible areas are thought to have speeded up the exploitation of plants and animals. The DoF, with support from STEA, has made good progress in identifying and designating protection areas. By 1999, some twenty locations had been designated as National Biodiversity Conservation Areas (NBCA), and other areas (e.g., prime wetlands in southern Laos) are being considered for designation. However, management plans for controlling activities within the NBCA have not yet been completed, and considerable damage is occurring because of encroachment of development activities and market and subsistence hunting, as well as illegal poaching and logging.

The GOL continues to pursue improvements in environmental management and has sought loan assistance from IFA such as the ADB to enable it to take a proactive approach that integrates environmental and social considerations in all development activities. This is expected to allow for more sustainable development in the energy and transport sectors — key sectors for economic growth that also have wide-ranging social and environmental impacts. Constraints to improving performance in these sectors include an incomplete policy and regulatory framework, weak implementation capacity at sector and provincial levels, insufficient compliance and enforcement mechanisms, inadequate regional planning to guide energy and transport development, and a lack of sustainable funding for environmental management (ADB, 2001). The GOL intends to further its policy reform agenda by: (i) strengthening the national policy and regulatory framework for environmental management and social safeguards; (ii) enhancing policy implementation measures and capacity at sector and provincial levels; (iii) improving compliance and enforcement; and (iv) promoting river basin management as a multi-sectoral planning framework.

Last but not least, it is important to note the emerging role of public involvement in Laos. The GOL regards public involvement as being a vital component of country development and has enshrined this concept in many government policies (e.g., under the WRCC, key documents have been drafted to raise public awareness on environmental issues). In the

EA context, it is recognized that public consultation should be emphasized throughout the project cycle — from the beginning to the end of the development process. In a broader context, public involvement has also been recognized as an integral part of natural resource management (e.g., the issue, including gender considerations, has been highlighted in the MRC's programming and strongly endorsed by donors and riparian country governments). In recent years, the GOL has promoted public involvement as part of their ongoing efforts to decentralize management of resources to the provincial, district, and village levels. It is expected that this trend will have a positive impact but that progress will inevitably be slow.

Contribution to Regional Environmental Management

The Mekong River is integral to Laos, with 88 percent of the country lying within the MRB. It is the only country that has common borders with the other five riparian countries in the MRB. For this reason natural resource development in Laos, particularly hydropower projects on Mekong River tributaries or in the mainstream itself, has the potential to impact downstream riparian countries. Recognizing the importance of the country's role in overall MRB environmental management, the GOL seeks to extend and strengthen transnational and regional relations and has been an active participant and contributor to regional governance initiatives.

The 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, signed by the four LMB countries of Cambodia, Lao PDR, Thailand, and Vietnam, stands out as the single most important regional instrument for cooperation on natural resource development and environmental protection issues. The objective of the Agreement is to cooperate in "all fields of sustainable development, utilization, management, and conservation of the water and related resources… in a manner to optimize the multiple use and mutual benefits of all riparians and to minimize the harmful effects that might result from natural occurrences and man-made activities." The Agreement established the MRC as an international body, thereby providing an institutional framework through which basin-wide sustainable development initiatives would be implemented.

The GOL has been extensively involved in implementing initiatives contained in the MRC's five-year Strategic Plan, from 1999-2003. To date, core programs on Water Utilization Plan (WUP), Basin Development Plan (BDP), and the Environment Programme have been established and implementation has begun by National Mekong Committees at the national level in LMB riparian countries. In Laos, the LNMC has been given responsibility by the GOL "to formulate policy, strategic plans, projects and programs related to water and water resources development in the Mekong Basin… and to ensure community participation and development cooperation with other Mekong riparian countries, other countries, and donors." An important aspect of the above-mentioned MRC initiatives is the need to develop riparian country capacity to address basin-wide environmental issues to ensure that basin-wide and cross-border issues are incorporated into riparian country environmental programs. It is clear that the Agreement represents a valuable instrument for cooperation on water resources management among

LMB countries, but it is too early to comment on whether the mechanisms that have been put in place for day-to-day implementation will prove robust in the long term.

Looking Forward to the Future — Prospects and Priority Areas

Although the natural resource base in Laos has been the foundation for economic growth to date, development has had inevitable adverse consequences that are expected to increase as development accelerates to satisfy national development objectives. In particular, the potential economic benefits from satisfying regional demand for hydropower energy pose an environmental and sustainable development challenge for the GOL. In addition, demands placed on forest and water resources in Laos are expected to increase significantly over the next decade as natural resource exploitation (e.g., upland agriculture, commercial logging, agricultural irrigation, mining, industry, and rural and urban water utilization) continues. Environmental issues raised by rapidly expanding natural resource use include deforestation, loss of catchment integrity due to land degradation, reduced biodiversity, depleted water reserves, and declining water quality.

Domestically, the GOL has made substantial progress in passing environment-related laws and regulations in response to the above-mentioned natural resource management problems.

However, it is recognized that legislation alone will not solve environmental problems — legislation must ultimately be appropriately enforced if management responses are to prove effective. Successful implementation of Lao's environmental legislation will provide challenges for the various regulatory authorities due to the cross-cutting nature of environmental matters. For example, it will be necessary for the GOL to take a multi-faceted approach if the government is to achieve its goal of reducing shifting agriculture in Laos. To be successful, various GOL interventions are required, namely: (i) delivering training in appropriate alternative agricultural techniques; (ii) addressing the overriding issue of widespread poverty by providing alternative sources of income; (iii) raising awareness of environmental degradation; and (iv) considering increased decentralization of natural resource management (DANIDA, 2001). Similarly wide ranging, integrated management approaches will be required in responding to environmental problems raised by forestry, hydropower, mining, industrial, and rural and urban development. Corresponding institutional strengthening, capacity building, and funding will also be necessary to overcome existing constraints faced by line agencies in effectively managing natural resources in a sustainable manner.

From a regional perspective, additional legislative and administrative procedures will be needed before multilateral treaty obligations, which cover a broad range of environmental issues, are fully met. In practice, additional domestic legislation and administrative procedures are required to ensure that national laws are brought into compliance with these international instruments (UN, 2000). The MRC (2001) notes that the institutional frameworks of the four LMB countries for integrated water resource management varies in their degree of national and local coverage. Similarly, the four countries are at different stages of developing their laws, regulations, and policies for environmental management.

The GOL has made significant progress in these respects, as evidenced by the passing of laws and regulations dealing with environmental issues and ongoing efforts to strengthen institutions and increase capacity in line agencies responsible for implementation.

Notwithstanding, some weaknesses in existing processes are apparent and will need to be addressed. For example, although EA is now established at the national level in LMB countries, concerns have been raised that insufficient attention is being given to cumulative impact assessment and regional environmental assessment in conducting EA for large development projects and activities. In an effort to address these gaps in EA regulations, guidelines, and practices, the MRC's WUP is currently undertaking a consultative process with riparian countries concerning the need to reach agreement on a transboundary EA system for the LMB. Given the potential for planned development activities in individual riparian countries to adversely impact on neighbouring countries, the MRC's initiative is seen as a timely intervention to raise awareness of transboundary issues and develop processes and sector guidelines for use by LMB countries in assessing planned development projects and activities.

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A Perspective on Thailand

Dr. William Ross and Dr. Anuchat Poungsomlee

Introduction

Before the 1997 economic crash, Thailand enjoyed high economic growth rates, and economic indicators, such as employment, income, and industrialization were all moving in a positive direction. Thailand was viewed as an example for other countries in the region to follow. Throughout the 1980s and 1990s, it appeared that Thailand was successfully making progress on the pathway towards economic development and poverty alleviation. However, with the crash, the economic success and the optimistic view of the future burst in what is sometimes referred to as the "bubble economy." With hindsight, it was clear that such rapid growth could not be sustained, that in fact much of the growth was not real but rather based on inflated valuations. Importantly, it also became apparent that the social and environmental consequences of the rapid growth phase were extremely serious.

The experience of Thailand shows how closely economic development is linked to environmental degradation, unless very strong protective measures are taken. It has become clear that the economic growth that took place during the 1980s and 1990s in the Asian region has had a dramatic, even devastating, effect on the region's environment. People in urban environments suffer deteriorating air quality, worsening water quality, and growing mountains of waste. The river systems are polluted, soil is losing its fertility, forest cover is declining, deserts are spreading, resources are being depleted, and biodiversity is being lost everywhere. The situation is dire and worsening, and global issues of climate change, ozone depletion, and acid rain compound it. Furthermore, a range of non-environmental challenges must be faced: health issues such as AIDS, malaria, and tuberculosis; and social issues of poverty alleviation, drug use, education reform, and the protection of minority groups, local cultures, and traditions.

This paper firstly provides some background information on Thailand before briefly looking at Thailand's efforts in international environmental cooperation. This will be followed by a description of the general environmental situation in Thailand, the problem areas it is facing, and the changes taking place in the field of environmental policy. Thailand's contribution to regional environmental management will be described on the basis of a number of ratified international agreements, and finally, some ideas on best practice are shared with recommendations on how to address the priority areas of concern.

Background Information

This section provides brief background information about Thailand today: its population, geography, the political system, the economy, and the kind of social development taking place.[35]

Population

With a population of 62 million people and covering an area of 514,000 square kilometers, Thailand shares borders with Myanmar, Lao People's Democratic Republic, Cambodia, and Malaysia. It has a coastline of 2,420 kilometers on the Gulf of Thailand and the Andaman Sea. Ninety-four percent of the population is Thai-speaking Buddhist, but in the southern provinces near the Malaysian border, the majority of the population is Muslim, and in the mountains of the northern region, over half a million hill tribe people speak distinct languages. People of Chinese origin, which make up around 15 percent of the total population, enhance the nation's diversity. This group speaks Thai, is integrated into the general population, is spread throughout the country, and identifies itself as Thai. Over six million people are registered as living in the capital Bangkok, but when the unregistered, migrant population is included, the population is generally accepted to be over ten million.

Geography

Geographically, Thailand is divided into four regions. The fertile central region is sometimes referred to as the "rice bowl," but also includes the Bangkok Metropolitan Region and the Chao Phrya River Basin that flows into the Gulf of Thailand. The mountainous northern region is scenic and popular with tourists, but the once abundant forests of the region have been greatly reduced and the land converted to agricultural uses. Bounded on the north and east by the Mekong River, the northeastern region is the poorest economically, with irregular rainfall and low soil quality, but is famous for its food specialties and its rich, fun-loving culture. The southeastern region too has poor soils, but its high rainfall allows fruit, maize, and cassava crops to grow well. Its long coastline provides opportunities for fishing and tourists. With the highest rainfall in the country, the southern peninsula is the principal rubber-growing area. As in the north, its once richly forested areas have been seriously exploited and cleared, causing severe flooding and soil erosion.

Politics

Thailand is a constitutional monarchy, with its most recent constitution, referred to as the "people's constitution" signed by King Bhumibol Adulyadej on 11 October 1997. The Constitution has set an agenda of political reform, in which the decentralization of administrative functions is to take place. This reform reverses a long trend of centralization and nation building, indicating political self-assurance and stability. However, decentralization and good governance are much debated topics. The

[35] Information from this section is mostly taken from the UN web site providing country background information on Thailand (http://www.un.or.th/)

decentralization policy will result in some tasks, functions, personnel, and budget being devolved from central government to local government units, such as the Tambon Administrative Organizations (TAO). Furthermore, the Constitution encourages the participation of civic groups in development planning and decision-making through the TAO and other community empowerment initiatives.

Economy

Thailand is rich in natural resources: tin, rubber, natural gas, tungsten, tantalum, timber, lead, fish, gypsum, lignite, fluorite, and arable land. But among the environmental issues it faces is the depletion of these natural resources, air pollution from vehicle emissions, water pollution from organic and factory wastes, deforestation, soil erosion, wildlife populations threatened by illegal hunting, and land subsidence in Bangkok due to excessive use of groundwater resources.

Thailand is a rapidly industrializing agricultural country. Arable land makes up one-third of the total land area, forests and woodland one-quarter, permanent crops about 6 percent, and permanent pastures 2 percent. Irrigation is by far the largest user of water, and the volume continues to grow — the 48,171 cubic meters in 1993 is expected to increase to 61,746 cubic meters in 2006. Not surprisingly, a large proportion of the workforce (54 percent) is engaged in the agricultural sector, followed by services (31 percent) and industry (15 percent, 1996 est.). Nevertheless, GDP by sector shows the importance of industry to the economy — industry comprises 40 percent of GDP, while agriculture accounts for 10 percent and services 49 percent (2001 est.).[36]

Prior to the financial and economic crisis that hit the country in July 1997, Thailand had experienced economic growth averaging 8 percent annually for two decades, and great progress was made in decreasing the percentage of people living in poverty, which fell from 32.6 percent in 1988 to 11.4 percent in 1996. While this sustained growth improved average incomes, the improvement was not uniform — the rich gained more, thus worsening income inequalities, and Bangkokians and people in other urban centers gained more than people in rural areas.

The economic crisis had a particularly strong impact on the vulnerable groups of society — the poor and those in remote rural communities — and led to the realization that these people needed to be empowered to enable them to participate more actively in future growth and development. Also, there was recognition that the nation needed to adopt a longer term and more holistic vision of development, where sustainable growth is based on human development, good governance, environment, and well-managed economic policy.

Thai society continues to be characterized by poverty and inequality, and the 1997 crisis showed the existence of deep, regional, social, and urban/rural divides. While the

[36] http://www.photius.com/wfb2000/countries/thailand/thailand_geography.html, http://www.rid.go.th/eng/kwter-dp_eg.htm, and http://www.info.tdri.or.th/

incidence of poverty declined steadily prior to 1997, since the crisis the trend has been reversed, with 15.9 percent of the population now living below the poverty line.

Social Development

The National Economic and Social Development Board's (NESDB's) Eighth Plan proposes that families and communities should be brought together to pursue self-development programs, so that they can play an active role in local development. This process can be supported through the promotion of local culture and by the mass media, and facilitated by the government. The Plan offers several strategies:

- Encourage communities to develop capabilities to participate in local development;
- Increase employment opportunities in rural areas;
- Promote education, public awareness, and training to ensure economic competitiveness for fostering human development and improving quality of life;
- Develop the local economy of each area based on its potential, to generate new economic opportunities and thus improve the quality of life;
- Establish a production base responsive to changes in global markets, focusing on community-based industries.

Thailand's Ninth National Plan articulates its development priorities for the period 2002-2006, whereby the successes and failures of the Eight Plan and the political and socio-economic developments since 1997 are shaping its direction. The plan encapsulates a people-centered vision of development for Thailand, which complements the measures introduced to strengthen the economic and social foundations for long-term sustainable growth. Its main goals are poverty alleviation, good governance, sustainability, stability, and strengthening development foundations. These priorities were formulated by the government in consultation with the private sector, NGOs and civil society at the regional and local levels. Discussions encompass increased participation and self-sufficiency, and the Ninth Plan emphasizes the importance of the role of civil society in the decision-making process.

Acting on such policy is more difficult than stating it however, as illustrated by the following two examples:[37]

- The long running issues of the gas pipeline at Songkla on the Thai-Malaysian border and the Pak Mool Dam show the difficulties the government has in actually engaging constructively with "the private sector, NGOs and civil society at the regional and local levels." Consulting does not mean developing a project and announcing it to the community for comment. It should encompass full public participation at the earliest planning stages of a project. Where ecosystems or environments are endangered, comprehensive and independent environmental impact assessments (EIAs) need to be undertaken with local community participation. While such a participatory approach may appear time consuming, experience shows that where it does not occur, conflict can continue for years, the project can be held up seemingly indefinitely and added costs can accumulate. The Pak Mool Dam is a case in point — a project with little initial community

[37] *The Nation* Thursday 19 December 2002 and Friday 20 December 2002

participation. The Prime Minister now accuses NGOs, who along with villagers and a study by the Ubon Ratchathani University are calling for the sluice gates to be opened permanently, of "putting words into the mouths of villagers" and accepting foreign money for their own benefit. Other statements by the Prime Minister do not show preparedness for open discussion: "I know who is good or bad," and "Villagers should speak out for themselves rather than repeating a taped message."

- The second example concerns local community radio, the establishment of which would give local communities a powerful voice on their issues, but which the government also sees as a potential source of problems. The constitution states that community radio should get 20 percent of the wavelengths and the Cabinet has already agreed to legalise the stations. However, the Prime Minister now plans to grant the Tambol Administration Organisations (TAO) the right to run community radio stations. The National Community Radio Federation, a movement seeking legal status for underground rural radio operators, claims that this is tantamount to giving the stations to the ruling party, not the people, and a betrayal of the concept of promoting independent, grassroots media.

Many people believe that the answers to Thailand's problems lie in education. However, reform of the education system continues to present a key challenge for Thailand. The Education Reform Commission continues its work to implement the provisions called for under the 1999 National Education Act.

This brief background information gives some idea about the direction that Thailand is moving, but it is clear that the changes to Thai society are great and the implementation of new policies is challenging. The following section looks at Thailand from the point of view of international environmental cooperation.

International Environmental Cooperation

Thailand is a member of a wide range of regional and international organizations including Asia Pacific Economic Cooperation (APEC), Asian Development Bank (ADB), Association of Southeast Asian Nations (ASEAN), Mekong River Commission (MRC), many United Nations (UN) organizations,[38] World Health Organization (WHO), World Trade Organization (WTO), International Atomic Energy Agency (IAEA), International Labor Organization (ILO), International Monetary Fund (IMF), International Organization of Migration (IOM), and many more. In addition, Bangkok is home to UN-ESCAP, and the current head of the WTO is a Thai national. Thailand was the Chair of the Standing Committee of the Association of South East Asian Nations (ASEAN) from mid-1999 to mid-2000, and Thailand was also the chair of the ASEAN Economic Ministries (AEM) forum for a one-year period from October 2000. In May 2000,

[38] Some of which include: the Economic and Social Commission for Asia and the Pacific (ESCAP), Food and Agriculture Organisation (FAO), UN Conference on Trade and Development (UNCTAD), United Nations Education, Scientific, and Cultural Organization (UNESCO), UN High Commissioner for Refugees (UNHCR), UN Industrial Development Organization (UNIDO), UN Iraq-Kuwait Observation Mission (UNIKOM), UN Institute for Training and Research (UNITAR), UN Mission in Bosnia and Herzegovina (UNMIBH), UN Transitional Administration in East Timor (UNTAET), and United Nations University (UNU).

Thailand hosted the Annual Board of Governors meeting of the ADB. These events demonstrate Thailand's regional focus and agenda, where it sees itself as the hub of the region, being able to benefit others through cooperation whilst at the same time gaining benefits.

It is clear that in this age of globalization and increasing interdependency between nations, awareness is growing in Thailand as elsewhere that the government, its institutions, and the community all have a global as well as a local responsibility towards environmental protection and the sustainable use of resources. Ideas such as 'think globally, act locally,' have been reborn to encourage 'think globally, act globally' and 'think locally, act locally.' In this context, Thailand, faced with mounting environmental deterioration in a number of sectors, is taking a multi-faceted approach towards local and global action.

Thailand's geopolitical position at the center of the Asia-Pacific Region gives it an important role to play in the region's economic, social, and political development. In addition, trade and tourism are important income-generating activities for Thailand and this aspect is tending to dominate international relations in the region as elsewhere.

As a means of promoting international cooperation, binding international conventions can be viewed as a tool aimed at preventing and mitigating cross-border environmental problems through the ratification of appropriate international environmental laws. As a member of the world community, Thailand has demonstrated its commitment by participating in these international activities, and by meeting its international obligations.

The list of major agreements and conventions *(see Box 1)* entered into by successive governments in Thailand shows that the commitment to meeting international obligations regarding environmental protection and sustainable development has extended over a period of more than 40 years. The range of agreements covers significant areas of marine pollution, heritage protection, air pollution, nature conservation, climate change, and ozone depletion. It is significant that these agreements recognize that environmental protection and sustainable development are indeed global problems that must be tackled by international cooperation.

Box 1: A selection of international agreements signed or in the process of being signed by the Thai government since 1969

Signed international agreements:

- International Convention for the Prevention of Pollution of the Sea by Oil (as amended on 11 April 1962 and 21 October 1969), London, 1954
- Agreement Concerning Cooperation in Marine Fishing, Warsaw, 1962
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (as amended), Brussels, 1971
- Ramsar Convention on Wetlands, 1971
- Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972

- Convention Concerning the Protection of Workers Against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration, Geneva, 1977
- Protocol for the Conservation and Management of the Protected Marine and Coastal Areas of the South-East Pacific, Paipa, 1989
- Association of South East Asian Nations Agreement on the Conservation of Nature and Natural Resources, Kuala Lumpur, 1985
- Agreement on the Network of Aquaculture Centres in Asia and the Pacific, Bangkok 1988
- Convention Concerning Safety in the Use of Chemicals at Work, Geneva, 1990
- Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 1991
- United Nations Framework Convention on Climate Change, New York, 1992
- Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987
- Convention on the Regulation of Antarctic Mineral Resource Activities, Wellington, 1988
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Basel, 1989
- International Convention on Oil Pollution Preparedness, Response and Cooperation, London, 1990

International agreements in the process of being signed, but still undergoing some discussion:

- Kyoto Protocol on Climate Change, 1997
- The Convention on Biological Diversity, 1992

Thailand has not yet ratified the Convention on Biological Diversity (CBD), as a number of Thai NGOs and civil society groups have lobbied Parliament against it, citing that the instrument encroaches on Thai sovereignty.[39] Nevertheless, the nation's internal preparation has been substantially developed both in law and responsible agency matters. The debate about the positive and negative impacts of being a CBD member is still of high community interest.

In 1998, Thailand ratified the Ramsar Convention on Wetlands. Preparation is underway to propose an additional nine wetlands as Ramsar sites, including: marshland, peat swamp forest, mangrove and muddy beach. Coordinating and focal points for outreach programs have also been set up.

In 1997, Thailand ratified the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal. Thai representatives attended the Conference of the Contracting Parties (COP), Technical Working Group (TWG), and other working group meetings as required under the agreement. At present, preparation is underway for ratification of the Protocol on the Liability from Transboundary Movements of Hazardous Waste and their Disposal.

While the government has shown some willingness to be a party to international conventions, a number of suggestions can be made to further the cause of multilateral cooperation and the promotion of civil society networks:

- Raising public awareness of issues together with collecting the most up to date information about endangered species and biodiversity should be prioritized, as well

[39] http://www.unescap.org/drpad/vc/orientation/M3anx_th_cbd_imp.htm

as providing full details regarding genetically modified organisms (GMOs) and matters that are directly linked to the Biosafety Protocol;
- Promoting community understanding about the consequences of being, as opposed to not being, a party member of the Convention on Biological Diversity;
- Promoting cooperation between communities in encouraging local participation activities in outreach programs as described in the Ramsar Convention;
- Support for the involvement of the private business sector in the development of hazardous waste management technology. Promotion of cleaner technology and the prevention and control of hazardous waste should be considered as a main policy through utilizing laws and encouraging community involvement.

It is clear that many environmental issues are global in nature and require international cooperation in order that they may be resolved. As an agricultural but newly industrializing economy, Thailand still has an opportunity to avoid the mistakes of other countries and to address environmental problems before they arise.

General Environmental Situation and Problem Areas

As already discussed, the 1997 Thai Constitution mandates the decentralization of authority to local governments and the promotion of civil society groups. In addition, the Sub-District (tambol) Administrative Organization Act of 1994 provides for the legal incorporation of local government units, empowering them to initiate and participate in all sustainable development programs.

The National Economic and Social Development Board (NESDB), and the National Environmental Board (NEB) are the mechanisms by which Thailand coordinates sustainable development, and for the past 25 years the emphasis has been on environmental sustainability, poverty alleviation, and improving quality of life. In addition, research institutions, academia, the private sector, and civil society groups representing a wide cross-section of experts are consulted regularly regarding environmental development policies even though they are not officially represented in the NESDB or NEB.

During this period, the government has developed policies and programs, and legislated extensively in areas such as combating poverty, atmosphere, land use planning, forest and deforestation, desertification and drought, sustainable mountain development, sustainable agriculture, biological diversity, biotechnology, oceans and coastal areas, freshwater management, toxic chemicals, hazardous wastes, solid wastes, radioactive wastes, energy, transport, sustainable tourism, capacity building, education, and training, as well as raising awareness of these issues in the community.

As a developing country, rich in natural resources and with an economy strongly dependent on primary industries and tourism, the following are the areas that are most environmentally threatened. Domestically, the priority areas of concern include:
- Farmers face soil degradation and soil erosion, as well as water shortages in the dry season, especially in the north and the northeast parts of the country. Farmers face

flooding in the wet season. In addition, the salinisation of agricultural land is occurring as a result of changes in groundwater levels and increasingly from freshwater shrimp farming.

- Water pollution and water shortage is critical in a number of catchments such as the lower Chao Phrya, Ta Chin, and Mae Klong Rivers.
- Because of its dominant position in Thailand, Bangkok has particular problems: air pollution levels often exceed Thailand's air quality standards; the generation of solid waste and night soil presents a growing management problem; and excessive use of groundwater is leading to subsidence and salt-water intrusion. Increasingly, other cities in Thailand (Chiang Mai, Hat Yai for example), see Bangkok as a model for development and are attempting to emulate this success without addressing the less positive aspects of growth.
- Severe coastal erosion often results from tourist developments, and activities such as sea walking to view corals causes great damage to marine ecosystems. Fish catches continue to exceed the natural replacement capacity of the stock.
- Tourism is an important growth industry in Thailand, providing many jobs around the country. The industry is largely based on the natural beauty of Thailand's island, coastal, forest, mountain, and river ecosystems. However, its continued expansion is putting enormous pressure on all of these natural resources, and causing social disruption to traditional village lifestyles. Much discussion revolves around the idea of 'ecotourism,' and the parties continue to argue about its definition, its level of sustainability, and to question whether it is really beneficial to local communities or merely exploitative.
- Natural forest cover is declining as encroachment and illegal tree cutting continue.
- Habitat loss is impacting on biodiversity and increasing the threat of species extinction.
- Conflict within communities has been aroused by the proposed development of a number of large infrastructure projects, such as the waste water treatment plant in Samut Prakan, the gas pipeline project in Songkla, and the planned power plant in Prachuab Kiri Khan. In this respect, we have seen that a potential for violence exists within Thai society. This is particularly the case where the use of natural resources is linked with poverty, poor governance, lack of public disclosure, corruption, and generally where the bureaucratic system has not offered an efficient method of public participation in the decision-making process.

In addition, the community is becoming increasingly aware of and concerned about potential health dangers. Examples include the use of pesticides and other chemicals in the agricultural industry where residues often remain on products sold in the marketplace; toxic wastes and polluted waste water from industry; and, particularly in urban areas, worsening air pollution events. More recently concern has been raised about genetically modified and transgenic organisms. The examples given here are all the result of human activity, but while consumers and the general public often feel that their health is being compromised by these practices, many see that they have little option or control in choosing a healthier lifestyle. Examples are many: the farmer who mixes chemicals with his bare hands, the young people pumping petrol in the gas station breathing highly toxic petrol fumes, the carpet layers, painters and carpenters breathing toxic glues and paints in

their workplace, the people selling goods on the side of congested roads breathing carbon monoxide from car exhausts. People are either unaware of the dangers, fear losing their jobs, or claim they "don't care" or that the situation is only temporary. In this regard, questions are raised of social justice and equity, of corruption and greed, and can be seen as examples of violations to workers rights and human rights. The examples show that there is an acute need for awareness raising through environmental education and community empowerment.

While appearing to be local in nature, the environmental problems faced in Thailand are also both regional and global. Thus, the protection of biodiversity, the sustainable management of natural resources, and the reduction of air and water pollution can be addressed at all levels of government.

Developments in the Policy and Institutional Setting

The 1997 Constitution gives the people the right to participate in the management of their local environments, and through laws, such as the proposed Community Forest Act and the Water Resources Act, the government encourages the involvement of the private sector and local communities in addressing relevant issues.

At the policy level, the government manages the Environmental Quality Management Plan (1999 - 2006) and at the performance level, for example, it maintains and administers the wastewater treatment system, and the application of ISO 14000 and Clean Technology. Furthermore, a number of government policies are directed toward strengthening local administrations and promoting tourism.

Governments have many opportunities to intervene in protecting the environment, but often seem to lack the political will. The Thai government is attempting to strengthen the ability of local organizations to manage their own local environment, but often only if it is politically expedient, as in the issue of community radio discussed earlier. Furthermore, governments can play an important role in the use of monetary policy, such as the application of environmental taxes based on the polluter pays principle, or by charging for services such as for waste collection and treatment. Politically, though, this is not an easy option. A third option is for governments to support and encourage the community to participate in environmental projects and activities in an appropriate way by providing an enabling infrastructure.

While the government claims to be taking action in these areas, it must be recognized that the problem is not solved by merely adopting practices from other countries without questioning their suitability to the situation in Thailand. For example, the question of how to involve the Thai community in the decision-making process cannot yield the same answer as it would if posed in a highly educated European country with a vocal population having a long history of demanding the right to participate. This is a time of fundamental change in Thailand, and while the government is at least accepting the concept of community involvement in the decision-making process, they must also

provide the opportunities for participation, and play an educative role in participatory democracy.

As good as it may be, government scandals and charges of ministerial and government officer corruption appear in the media on a daily basis. Whether these charges are proven or not, over time the public often develops a cynical view of government and believes neither the politicians, nor the courts, nor the media. The situation is not helped by a government whose motto seems to be a paternalistic "don't argue with me, trust me, I am looking after you." For the government to gain the confidence of communities, questions of good governance must be able to be discussed openly. This includes rule or law, accountability, transparency in how decisions are made, participation, and integrity. Dr Prasit Domrongchai of the Thailand Development Research Institute (TDRI) writes:

> "Corruption has long deteriorated Thai society and caused political turmoil. Every Coup D'Etat often refers to the evidence of corruption. Good Governance can lessen, if not eliminate, all forms of corruption and corrupt practices. But there must be an agent to lay GG foundation down, the National Counter Corruption Commission is a part. With three attributions: Faithful, Ally and Honesty Awareness, one hopes to install Good Governance and to eradicate corruption successfully."[40]

Again, the difficulty is in translating policy into practice. The following section looks at Thailand's contribution to regional environmental management based on a number of international agreements.

Contribution to Regional Environmental Management: Cooperation on the Mekong River[41]

In 1995, Thailand joined Cambodia, Lao PDR and Viet Nam in establishing the Mekong River Commission (MRC). The Commission also maintains regular dialogue with the two upper states of the Mekong River Basin, China and Myanmar. The aim of the Commission is to "promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities and providing scientific information and policy advice." The MRC member countries agree to cooperate in all fields of sustainable development, utilisation, management, and conservation of the water and related resources of the Mekong River Basin, such as navigation, flood control, fisheries, agriculture, hydropower, and environmental protection.

While the ideals may be lofty, the reality shows how difficult river basin cooperation is. Two major issues of sustainability that the MRC has not been able to address are China's insistence on building eight dams across the Mekong in the Yunnan Province, and the blasting of rapids in Thailand and Laos to allow year round navigation. China claims that

[40] Dr Prasit Damrongchai *Good Governance & Corruption in Thailand* http://www.info.tdri.or.th/reports/os_paper/prasit_e.pdf
[41] http://www.mrcmekong.org/

the hydro dams are a key part of its plans for economic development and poverty alleviation. However, experience shows that big dams have enormous social and environmental impacts on local and downstream inhabitants, and these concerns have not been given due consideration.

More than 100 rapids are set for demolition, in a 350-kilometre section of the Mekong River running through China, Burma, Laos, and Thailand under the 200-million-baht plan, including 13 between Chiang Saen and Chiang Khong in Thailand. A number of environmental problems have been identified, including the destruction of the breeding grounds of the giant river catfish, the loss of water plants known as kai (a source of food for fish and local people alike), the erosion of river banks and damage to riverside plantations from faster flowing river, and the damage to the livelihoods and health of 100,000 people who rely on fish for protein due to the reduction of fish in the river.[42]

It seems that while cooperation along the Mekong River is occurring at the international level, some distance still remains between the government and local people, and a number of issues have been raised:[43] Firstly, local people, whose lives depend on the Mekong, were not informed about the project or participated in any way in the decision to carry out the blasting. Secondly, the environmental impact assessment (EIA) was not based on assessments of the full range of potential impacts, ignoring impacts on fisheries, society, tradition, and the aquatic ecosystems. Thirdly, blasting the rapids will destroy the resources and security of local people.

It is claimed that clearing the reefs would enable 500-tonne ships to ply the river year-round. However, most trade between Thailand and Laos could be carried in 30- to 100-tonne ships. Clearing the rapids would mainly benefit China, which owns most of the bigger ships plying the river during the wet season.

Another body on the Mekong River is the Greater Mekong Sub-region (GMS), which includes the four upper catchment countries, Laos, Thailand, China and Myanmar. As discussed in this section, the GMS came to a common agreement on the use of the upper Mekong River for navigation purposes, a decision creating grave environmental consequences.

Cooperation on environmental issues at the international level is difficult because of national self-interest, and because each government has the mandate to protect the best interests of its own people. Governments must identify and balance the advantages and disadvantages from an international, national, and local point of view, but too often in the past, the local perspective has been neglected. The following section looks at the environmental situation in Thailand and those areas where problems are arising.

[42] Theerawat Khamthita, Bangkok Post. June 3, 2002
[43] http://www.rwesa.org/statement/statement20021212b.html

Best Practices and Future Prospects

A number of positive developments are evident:

- The establishment of the Natural Resources and the Environment Ministry in itself will not change anything, but looking positively, it does give environmental interests a voice at Cabinet level and thus raises the profile of environmental and natural resource issues.
- The Social Investment Fund, financed by a World Bank loan of $300 million, was approved in 1998 to help mitigate the adverse social impacts of the economic crisis of the poor and unemployed. The fund works to strengthen civil society groups by supporting projects proposed by community groups, local governments, and NGOs.
- In the debate on globalization versus localization, His Majesty the King's words calling for more independence and self-sufficiency, with less reliance on international markets, carry a lot of weight in the community and have generated widespread debate together with awareness raising of the issues.
- The growth of grassroots movements is clearly evident in issues such as the Community Forest Bill, and civil society has built networks on a wide range of topics: environment, sustainable agriculture, natural resource management, and so on. Civic Forum and other community based organizations have been set up around the country, and while some groups are more effective than others, the movement works from a wide base, showing that people want to participate in the decisions that will affect their lives.
- The drafting process of the National Health Bill, the growth in the process of health impact assessment, and efforts towards public disclosure are indicative of the government's attitude toward addressing the public's concerns over health issues.

Generally, civil society groups face a lack of resources and a lack of sufficient accurate information to allow them to operate efficiently. Their work is further hampered by a lack of transparency and poor accountability in the government sector, a lack of coordination between government departments, and poor access, or knowledge of how to access, environmental funding opportunities.

In this regard, an area of priority is for government agencies to provide opportunities for civil society groups to be involved and participate in government or state-enterprise processes, thus providing them with access to budgets, information, and cooperation, including the promotion of positive attitudes towards such groups. Additionally, the government can continue to intensify its support for cooperation between civil society groups and government agencies in the management of natural resources and in solving environmental problems.

Priority areas for the coming years remain as in previous years: combating poverty, water resource management, natural resource management, sustainable agriculture and rural development, conservation of biological diversity, management of biotechnology and GMOs, safer use of toxic chemicals, managing hazardous wastes, and building partnerships with civil society groups.

Finally, some recommendations which would be helpful in addressing the listed areas of priority:

- The sustainable management of natural resources requires a broad knowledge of ecosystems and an understanding of how they interrelate as well as of the possible consequences of actions taken. With a clear understanding of the role they can play, coupled with the knowledge necessary for their successful participation, the community can be encouraged to take on this role.
- Furthermore, the community's ability to participate in environmental and natural resource conservation can be strengthened by training environmental leaders. A particularly important aspect of bringing about change in the way these resources are managed is the role that women and young people, especially in rural areas, can play.
- Community participation in the process of drafting and modifying laws and regulations can benefit the community and the government through greater transparency and accountability. Therefore, the community should be allowed and encouraged to participate in this process. A first step would be to make detailed information available so that the issues can be discussed in the public arena.
- Governments in the region must take positive steps to tackle the important issues of public disclosure, accountability, transparency, and good governance.
- In terms of regional policies and working together, governments in each country can assist civil society movements through the provision of an efficient networking infrastructure.
- From an academic viewpoint, there is a need to build new knowledge on how diverse communities can live and work together and how they can all be part of the decision-making process. There is a need to develop new ways of solving problems and move from the divisive yes/no, black/white approach to a more inclusive and consensual method of decision-making. The new approach would recognize cultural differences and aim for goals of social advancement, well being and equity, and environmental protection and sustainability, as well as economic development.

Conclusion

What is now emerging throughout the region is a growing movement of people who realize that they must take responsibility for the management and care of their local environments: their wetlands, rivers, forests, coastal areas, parks, resources, and urban environments. In addition, this group is showing that they are very keen to take on the task of protecting these areas, recognizing that it is in their own best interests to do so. More enlightened governments recognize the important contribution that civil society and local communities can make in these areas, and they are moving towards devolving decision-making to lower jurisdictions, and are actively supporting civil society groups.

There is now an urgent need for all governments in the region to make progress in empowering communities so that they are in a position to manage their local environments effectively. This includes providing an infrastructure to support civil society groups, protecting citizens rights, introducing environmental education to all schools and the community, promoting open and constructive discussions in the community and the media, considering the social and environmental consequences of

development projects, as well as the economic, providing free access to information, and devolving decision-making to the most appropriate level as outlined at the Rio Convention.

Local communities often have detailed knowledge of their local environments, and governments are now beginning to understand the tremendous environmental management potential that these people represent. Through government support in areas of empowerment and infrastructure, healthy environments can be maintained and economic development can continue in a more sustainable way.

A Perspective on Vietnam

Le Thac Can, Do Hong Phan, and Le Quy An

Environmental concerns in Vietnam have received increasing recognition since the 1980s. Policies, strategies, plans, programs, and projects have been implemented by scientists, experts, and managers dedicated to sustainable development. Several laws on natural resources and environment were issued during the last decade, establishing a very basic legal framework for natural resources and environmental management. However, technical regulations are still seriously lacking. The enforcement of laws and regulations needs to be improved. Environmental sustainability should be integrated with socio-economic development plans.

General Environment and Natural Resources Situation

Vietnam is endowed with diverse natural resources, including land, forest, water, mineral, energy, and biological resources. It has 8.4 million hectares of agricultural land and 12 million hectares of forestland; the latter figure reflects a serious deforestation of about 40 percent during the last half century.

A dense network of rivers and creeks covers Vietnam. The total annual runoff is estimated at 835 billion km^3, of which 63 percent is generated outside the country; most of the large rivers in Vietnam are international. Groundwater potential is roughly estimated at 58 km^3. The country's hydropower potential is 17,400MW, of which 17 percent is developed, contributing half of Vietnam's electricity production. The development of water resources so far has made an enormous contribution to economic growth. In addition to natural calamities, such as devastating floods and severe drought, even lacking drinking water in several areas, water pollution was recently widely recorded. Water quality is deteriorating.

With its tropical rainforest and monsoon savanna, marine and wetland life, and mountainous sub-alpine scrubland, Vietnam is home to one-tenth of the world's inventoried species of birds, fish, and mammals. Forty percent of the current inventoried plant species in Vietnam are endemic.

Sub-national Environmental Priorities

Vietnam's current planning schema divides the country into eight sub-national zones based on geography and socio-economic development. These zones are characterized by diverse environmental conditions and concerns. Two of these zones, the Central Highland Zone and the Mekong Delta Zone, both of which lie within the Mekong River Basin, have special implications for the regional environment. They demonstrate Vietnam's position as both an upstream and a downstream water user.

The Central Highland Zone includes the Upper Sesan and Srepok River Basins, both of which are tributaries of the Mekong River. The Central Highland Zone is characterized

by high ethnic diversity and an economy that is dependent upon the natural resource base. Coffee production is a central part of the local economy, and the zone has significant hydropower generation potential. The Central Highland Zone's once-rich forest resources have largely been lost to deforestation by war before 1975, and by a widespread conversion to agricultural land resulting from the commercialization of agricultural production, population pressure on land resources, and the challenges of adapting shifting cultivation to new socio-environmental demands. Control of forest loss and integrated water resources management are vital for the Central Highland's ecological and economic future.

The Mekong Delta Zone's diverse natural resources are of great importance to Vietnam's agriculture and economy, accounting for some 50 percent of the country's total agricultural production, including 55 percent of its rice production. The zone's rice and fishery products contribute significantly to export revenues, and account for about 27 percent of national GDP. In the Mekong Delta Zone, land, water, fish, and forest resources are linked closely with each other in several diverse ecosystems. The fertility of the alluvial plain is caused by seasonal flooding. However, some major constraints have limited full agricultural development. These constraints include deep and prolonged inundation, salinity intrusion, the spread of acid sulfate water, and freshwater scarcity. The management and flooding of coastal wetlands plays an important role in fisheries and forestry production, as well as in biodiversity protection. However, export markets have sharply increased demand for shrimp cultivation, leading to a serious degradation of these coastal ecosystems. Efforts are being extended for safeguarding what still remains, with a view to sustainable resources management.

Transboundary Issues

Along its 3,700 km of land borders, Vietnam abuts on China, Laos, and Cambodia. Mountains, narrow valleys, and forests dominate border areas, where neighboring countries share a rich yet degrading biodiversity and their common ethnic societies and values. The Truong Son range along the Vietnam-Laos and Vietnam-Cambodia borders has a diverse relief, which explains the region's rich biodiversity. A number of national parks and national reserves have been set up there, such as in Vu Quang, Pu Mat, and Yok Don. The region lying at the Indo-China junction between Vietnam, Laos, and Cambodia is another biodiversity-rich area. A national park has been established in Chu Mom Ray. Some cooperation among Vietnamese scientists and their Lao and Cambodian counterparts has taken place, with meetings from time to time. However, this interaction needs to be greatly improved.

Vietnam shares not only borders with neighboring countries, but also natural resources and environmental impacts. These impacts may include watershed deforestation, water pollution, declining fish and wildlife population in the hinterlands, dislocation of border populations, and illegal transboundary trade.

As mentioned above, of Vietnam's dense watercourse network, seven rivers — all international — are the largest in terms of catchment and runoff. In most cases, water flows into Vietnam. In the Mekong Delta, only 5 percent of annual runoff is generated

locally. The Hong-Thai-Binh system (Red River) receives 42 percent of its runoff from China, while the Ca and Ma Rivers receive 15 percent of their water from Laos. In a few cases, Vietnam takes the position of upstream country: the Upper Sesan and Srepok that join the Mekong River in Cambodia and the Ky Cung and Bang Giang that join the Pearl River in China. These facts illustrate the geo-political positions of both downstream and upstream riparian countries, as well as the potentially strong impacts of transboundary water and related resources development and management in Vietnam.

National Framework for Environmental Governance

Vietnam's policies on the environment were set out quite comprehensively in the "1991 National Plan for Environment and Sustainable Development," which was documented into the "Vietnam Country Report" to the UN Conference on Environment and Development, Rio de Janeiro, 1992. These policies aimed at:

- Satisfying the basic material, spiritual, and cultural needs of current and future generations of Vietnamese people by wisely managing the country's natural resources.
- Establishing and enforcing policies, action plans, and institutional frameworks to ensure the sustainable use of natural resources that are closely connected to all aspects of the process of socio-economic development in the country.

In 1995, the government approved the National Biodiversity Action Plan, of which the immediate objectives were to protect the country's endemic ecosystems, protect those biodiversity components that are now subject to overexploitation or ignored, and promote and identify the utilization values of all biodiversity components, based on the sustainable development of natural resources in order to serve the country's economic targets.

Another key statement is Directive No. 36 on strengthening environmental protection during national industrialization and modernization, issued in 1998 by the Communist Party of Vietnam's Political Bureau. The directive calls upon the whole country to participate actively in environmental protection activities.

Legislative and Institutional Framework

In the 1990s, Vietnam adopted a number of laws related to natural resources and environmental protection, including the Law on Protection and Development of Forest (1991), Law on Land and Territory (1993), Law on Environmental Protection (1994), Law on Minerals (1996), and Law on Water Resources (1999). Under these laws, natural resources belong to all Vietnamese people, and the government exercises unified management over natural resources and environmental protection throughout the country.

The institutional framework for environmental governance consists of:

- The administrative hierarchy, with representation at the national level through the National Assembly, and at the provincial, district, and commune levels through People's Councils and Committees.

- More than ten line ministries and central agencies dealing with natural resources, and other ministries with general planning responsibilities. The Ministry of Science Technology and Environment formerly played a central coordinating role in environmental management; in July 2002, a new Ministry of Natural Resources and Environment was established, and is currently developing its functions.
- Professional agencies, such as research institutes, universities, and national and international NGOs.

Through the above-mentioned legal and institutional framework, Vietnam has introduced a large number of globally accepted principles on environmentally sustainable management into its legislative system. However, there is long way to go in developing effective enforcement of these laws, since regulations are still missing and/or overlapping and institutions are either new or weak.

Environmental Information and Public Access to the System

At the national level, the National Environment Agency of the Ministry of Science, Technology and Environment (MOSTE), now the Ministry of Natural Resources and Environment (MoNRE), is directly responsible for the collection, analysis, and dissemination of environmental data and information. MOSTE/MoNRE collaborates with line ministries and all provinces in environmental data and information activities through their sectoral and provincial departments responsible for science, technology, and environment. Line ministries and provinces have also set up their own databases, and provide MOSTE/MoNRE with information as and when required.

The principles of provision of environmental information and facilitation of public access to this information are defined in the Law on Environmental Protection, which states that governmental authorities have the responsibility of periodically reporting on the environmental situation to the National Assembly, and informing the public. MOSTE/MoNRE submits a State of Environment Report (SOER) every year to the National Assembly on general information concerning the national environmental situation. Some of the main contents of the report are published and disseminated to the public through mass media.

The environmental information and decision-making procedures in Vietnam are, in principle, transparent. Public participation is defined by “four musts” — “People must be informed, people must participate, people must discuss, and people must have control over” — which govern development activities at all levels, from the village community to the national level. Every citizen can request environmental information directly, or through their representatives, the central and local governments.

Legally, all citizens have access to the environmental information available at environment offices. Deputies and individual citizens can also ask for detailed environmental information related to specific projects and programs. Line agencies have the responsibility to answer and adapt to these requirements. The Science, Technology and Environment Committee of the National Assembly assists deputies in accessing relevant government agencies. This apparently sound system design is not workable as

yet, due to unclear regulations and mechanisms for implementation. The same procedures are applied at lower levels regarding environmental information and public access to this information. The Provincial Department of Science, Technology and Environment reports periodically to the Provincial People's Council. Again, enforcement is as weak as at the central level if not worse. Mass media, including national and local newspapers, radio, and television, have been very active in raising public awareness, environmental protection, and defending grassroots rights. Mass media groups are a step ahead in revealing issues, such as illegal timber cutting and water and solid waste pollution.

Transparency is limited for the following principal reasons:

- Fragmented management of natural resources and environment-related sectors, and restricted inter-agency exchange of information.
- Limited availability of environmental information: a robust database of Vietnam's environmental information is still in the process of being developed. Lack of environmental information is serious in some provinces, where information databases do not yet exist and even annual State of Environment Reports have not yet been produced.
- Inadequate monitoring of the ambient environment and inadequate survey of natural resources depletion: the national environmental monitoring network is still very limited. Natural resources data are collected and analyzed by various agencies without significant coordination and management by MOSTE/MoNRE. Most industrial enterprises do not monitor the pollution they create.
- Limited human resources for the provision and dissemination of environmental information, as well as for environmental decision-making with adequate public participation. The staff of the National Environment Agency is still limited; except in large cities and provinces, most provincial environment offices have only four to five staff members.
- People's knowledge and awareness is still low, and this prevents the democratic process from being fully practiced.

The reasons for these inefficiencies are many. Among others, the following are important: laws are enforced, but by-laws and technical regulations are still lacking; public participation is not clearly defined; the necessary conditions for public participation are not provided; information systems are fragmented; mechanisms for legislative enforcement are still to be set up; and awareness of governance practices is weak. In such conditions, the responsible authorities are relatively free to interpret based on their knowledge and capacities. Even when willing to do their best, they have difficulty with proper implementation. Capacity building is sorely needed. Good results have been observed in projects with external funding and/or cooperation, and these could be seen as pilot models.

In practice, the lack of reliable information and the absence of well-organized services for information delivery to interested people are creating many difficulties in access to environmental information. Access to information concerning specific development projects, including environmental information, is still limited to those offices and organizations directly involved. To improve public access to environmental information,

it is necessary to elaborate and issue requisite legislative and administrative regulations, to better organize information services at various administrative levels, and to strengthen the capacity of local NGOs and mass media groups.

In principle, public access to environmental information and transparency in environmental decision-making exist in Vietnam, but the current framework is still far from effective.

Decision-making Processes and Opportunities for Public Input

Similarly, in principle there is support for public input into environmental decision-making in Vietnam. In practice, however, the current framework is ineffective. The overall process is such that provincial planning proposals are formulated in close consultation with line ministries before they are submitted to the central government through the Ministry of Planning and Investment for approval. Major development projects are studied by central agencies with the participation of local authorities.

Decisions relating to entire zones within Vietnam are made by the central government in consultation with relevant provinces and cities within that zone. The planning process is guided by the Ministry of Planning and Investment and finally appraised by an ad hoc central council. The responsibility for supervising and monitoring zone development plans falls directly to the government, mostly through its line ministries. An exception occurs when inter-provincial river basin organizations are established under the interpretation of some articles of the Law on Water Resources. On this matter, the law stipulates that integrated river basin planning must ensure the unified management of water resources in combination with the administrative system. There might be some practical difficulties in implementation, since relevant agencies in the administrative system generally have authority over the sub-basin areas lying within their jurisdiction, while the law stipulates that integrated river basin planning organizations are affiliated with the Ministry of Agriculture and Rural Development. Further improvement is expected with the establishment of MoNRE.

At the provincial level, there is an ongoing decentralization of functions and powers in the decision-making process. Provincial authorities are delegated the authority to make decisions about numerous issues related to the use and management of local natural resources and the environment. For example, in land use and management, the province has the power to establish land and territory use plans as well as to hand over land to organizations. The district has the power to hand over land to households and individuals.

At the grassroots level, a policy of community participation and socialization of socio-economic development and environmental protection is practiced. Mass organizations (e.g., Union of Women, Youth, Farmers, and Revolution Veterans) play an active role at the grassroots level. Recently, the Grassroots Democracy Decree (1998) at the commune level stipulated that people must be consulted on commune development plans, such as economic affairs and job generation, land use, water supply, and environmental sanitation, before the plans are decided on by the Commune People's Committees.

With the newly introduced participatory approach, communities have been encouraged to organize themselves for specific purposes, such as water use and environmental sanitation. New developments can be observed in irrigated fields. Under the Participatory Irrigation Management (PIM) schemes assisted by several donors, water users of on-farm irrigation schemes have been forming their own organizations (water user associations, water cooperatives), as they maintain their membership in different administrative communes. This form of water management was not initially supported by local administrative authorities. They finally supported the new management system after remarkable progress was made in maintaining a reliable water supply and in the full collection of water fees. PIM, however, has been developed slowly and needs to be formally introduced nationwide.

Environmental Impact Assessments (EIAs) have been required by law since 1994 for application to both operating enterprises and new projects, as one of the key tools in the decision-making process. EIA is applied largely in infrastructure development projects, such as hydropower, irrigation, transport, and industry projects. EIA reports are always appraised by an EIA Commission, which consists of scientists and managers and may also include representatives of social organizations and representatives of the population, before being approved by MOSTE/MoNRE. Community participation is thus mentioned, but only as optional and therefore not quite enforceable. Professional associations, such as the Vietnam Association for Conservation of Nature and Environment, are often invited to participate in EIA activities. It is, however, necessary to mention that the technical capacity for EIA among local professionals is still very limited, especially in the overall and strategic assessment of macro and long-term plans.

It is hoped that elsewhere EIAs will be done comprehensively and in the early phases of project conception and design. EIAs of many important projects were, in fact, carried out a long time after their pre-feasibility or even feasibility studies had been passed. Some large projects, such as the Yali hydropower plant, have been limited in their EIAs and resettlement plans to power plant and reservoir surroundings only. The National West Highway project started to organize greater public participation in environmental issues only months after the project's implementation had begun. In contrast to those experiences, the Son La hydropower project's feasibility study is being run better, that is, more prudently studied, with significant participation by national institutions, NGOs, and local people.

Current Contributions to Regional Environmental Governance

As a downstream country, Vietnam is conscious of both the quantity and quality of the water flowing downstream into its borders, as well as the possible reforestation of barren lands upstream. In the Mekong case, Vietnam is determined to effectively implement the Mekong Agreement for sustainable use of the Mekong's water resources, and to prevent as much as possible any negative impacts from the unsustainable use of water from upper parts of the basin. Vietnam is also eager to cooperate with China and Laos for the sustainable use and protection of Hong and Ca and Ma Rivers, respectively.

Vietnam is attempting to restrain itself in its use of water resources to avoid pressuring upper basin countries. Vietnam is prudent in dyking its Mekong branches, as it used to do for controlling seasonal floods, so as to avoid increasing flood levels in Cambodia's upper delta. Vietnam has adopted, instead, a policy of "co-existence with the floods." Vietnam is also keen to develop and facilitate international navigation along Mekong channels. The case of the My Thuan Bridge illustrates this policy. Instead of having a 25m vertical clearance bridge as justified well by future needs, Vietnam chose the Mekong option of 37.5m vertical clearance in order to accommodate Cambodian requirements. By doing so, Vietnam had to make a larger investment. The two countries later entered into a bilateral agreement on Mekong navigation and consolidated their cooperation in the field.

As an upstream country, Vietnam has obligations toward downstream neighbors, just as it requires from its upstream neighbors. The Upper Sesan is the major upstream river in Vietnam. As mentioned above, Upper Sesan hydropower potential ranks third countrywide and the Yali Dam, a major hydropower plant on the Upper Sesan, ranks second. The Yali project was identified in the 1960s by the Mekong Committee as one of the two most interesting projects (together with Nam Theun II in Laos) in the Lower Mekong Basin. The pre-feasibility study was undertaken in 1991 and 1992 with an EIA report financed by Switzerland through the Mekong Programme. The political context in Cambodia at that time prevented any access to Sesan downstream areas in Cambodia for inclusion in the EIA study. The report only covered the Vietnamese part of the river. The Vietnam National Mekong Committee did recognize its obligation to inform downstream areas about the potential impacts of upstream development. It notified the Cambodian National Mekong Committee about Yali project development at least twice. However, the two sides regretfully missed an opportunity to undertake an EIA study for Cambodia once the political stability at the sites allowed it.

As a hydropower plant, Yali's operation will have impacts on downstream areas, including both positive (increased flow in the dry season) and negative (a change in river ecology). A negative impact occurred during the project's construction in 2000. The operational test of Yali's hydraulic works did not take into account impacts on downstream areas and regretfully caused some damage to local people. The neglect by the hydropower developer was worse. Fortunately, the matter was brought in time to the attention of the Mekong River Commission (MRC), the right body in such an event. The Vietnamese Government and its Ministry of Industry gave timely instructions to Electricity of Viet Nam (EVN) and Gia Lai Province for the necessary mitigation measures and, most importantly, for future upstream/downstream collaboration mechanisms. Both the Cambodian and Vietnamese sides have had constructive discussions with mutual understanding. Meetings between Cambodian and Vietnamese Committees for the Management of the Sesan River were organized with the MRC Secretariat acting as facilitator and observer. In one of their periodic meetings in April 2002, both sides agreed to undertake EIAs and hydrodynamic modeling studies along the Sesan River in Cambodiam with financial support from EVN and SWECO and Statkraft Groner as international consultants.

At the same time, there is recognition that among the Vietnamese, the concept of Vietnam's own upstream obligations was still vague. Vietnam therefore needs to be

aware and to educate stakeholders, including local populations and authorities and relevant central agencies.

Prospects for Improved Regional Environmental Governance

Natural resources and the environment have a regional nature. While regional water resources issues are characterized and limited within each watershed, environmental issues are not. A larger framework of regional institutions is needed if protection of environment is the aim.

The principles of sustainable use of resources and protection of the environment are generally adopted by governments. Discrepancies remain, however, with the mechanisms for promoting and translating them into practice. Regional institutions should first of all adapt themselves to these principles and should be among the most active stakeholders in playing a promoting role. This promoting role should start with awareness raising, focusing on general public awareness among decision-makers and grassroots people.

There is no single agency or organization that can effectively address regional and transboundary environmental challenges on its own. This task requires coordination based on the strengths and weaknesses of existing regional institutions. Among the regional institutions cited above, the MRC's strengths are in managing, at the Lower Mekong Basin level, the operational water and related resources database, the permanent hydrology measurement and water quality monitoring network, and the day-to-day communication and hydrology forecasting system between the MRC Secretariat and the four National Mekong Committees and National Hydro-Meteorology Services. The active participation of nationals, whether governmental or non-governmental, is a prerequisite. They are the ones who translate regional findings into country strategies and programs and implement them.

In Vietnam, external donors also give priority to resources and environment sectors. Through technical assistance and research studies, they have contributed substantially to the transfer of modern concepts, such as sustainability, efficient and effective governance, new good practices, and capacity building. In sum, they have contributed to a change in thinking and behavior with a view to broader vision, integrated action, and stronger ownership. Recently, national stakeholders expressed their desire to see more effective coordination among donors, in conjunction with their support to national governance reform.

Regional efforts can and should help in policy dialogue, human resources development, mutual understanding among the region's people, and conflict resolution. The effort should not be to mobilize so as to compete successfully, but to cooperate in reconciling competing needs. The concept of a Mekong region, instead of a Mekong basin, with five countries and one Chinese province is still questionable in terms of how study outputs within such a framework would be further delivered to relevant governments for consideration.

Summary and Recommendations

Improving environmental governance arrangements and processes at the national level should be promoted and implemented as a basic condition for improving environmental governance arrangements and processes at the regional level. It is important to recognize that regional trends will likely influence national ones.

National environmental governance concerns and issues may be summarized into the following elements:

- Enabling environment, including the general framework of national policies, legislation, regulations, and financing for the sustainable management of natural resources and environmental protection.
- Institutional framework, both within the general administrative structure, and within the river basin in the case of water management.
- Incorporation of environmental issues into national socio-economic plans.
- Decision support system in planning and prioritization, including the provision of the information and tools required to guide rational allocation and management decisions, in a combination of regulatory and economic instruments.
- Effective coordination among agencies.

Environmental governance arrangements and processes at the regional level**,** while supporting national efforts, could also apply their principles by focusing on transboundary issues. Elements for improvement may consist of:

- Promotion of regional cooperation and agreements, which are legal frameworks for effective cooperation.
- Cooperation on environmental governance should be oriented to strategic and cross-sectoral matters, such as awareness raising, information exchange, EIA information dissemination, capacity building, and coordination of criteria and guidelines.
- Cooperation on water resources governance should have a basin approach and should be institutionalized under river basin organizations. The Mekong River Commission should be further supported and strengthened. Cooperation on other shared river basins should be promoted and should be institutionalized under appropriate forms.
- Exchange of experiences among environmentalists and managers on the formulation and enforcement of regulatory and economic instruments.
- Closer cooperation between governmental organizations (national and regional) and international and local NGOs in the promotion of public participation, especially participation of minority ethnic groups and affected people.

List of Participants*

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